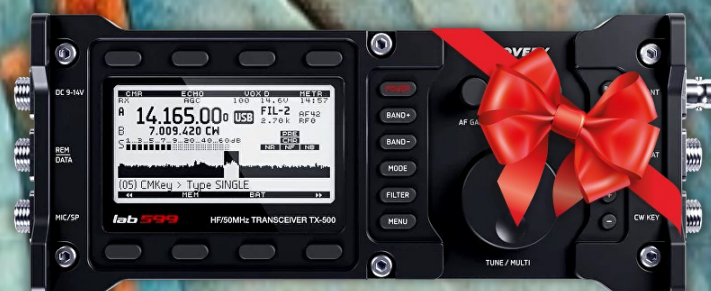


THE LOGGER'S BARK

Radio Club of Tacoma



Valentine's Day



TX-500 Transceiver

In this issue:

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www.W7DK.org

Radio Club of Tacoma
1249 South Washington Street
Tacoma, WA 98405
253-759-2040

W7DK

Open House every Saturday
10:00 AM to 2:00 PM
Last Saturday every month is
Swapmeet Day

Radio Club of Tacoma

Founded 1916

W7DK 2024 OFFICERS AND COMMITTEE LEADERS

EXECUTIVE COMMITTEE:

President: Mike Mikuchonis W7XTZ
Vice President: Adam Barbera W2NCC
Secretary: Gary McAdams WG7X
Treasurer: Steve Dightman AF7YD

BOARD OF DIRECTORS:

Board: Mike Drorbaugh W7MKE
Board: Paul Matney W7PFU
Board: Doug Schafer AD7DG
Board: Red Cranefield WB7EC
Board: Phil Pia K7PIA

KEY COMMITTEE CHAIRPERSONS:

Membership: George K7GRS/Mike W7XH
Salmon Run: George K7GRS/Mike W7XH
Infotech/IT: Randy WB4SPB
HF Operations: Phil K7PIA
Facilities: Adam W2NCC
Property Mgmt. Red WB7EC
Museum: Dan KD7SV
Planning: Manny AD7MA
POTA: BJ WA7WJR
General Meeting: Dave W7UUU
Bark layout & Editor: Dave W7UUU
Assistant/Copy Editor: Anne N7ANN

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NEXT MONTH	PRESIDENT'S CORNER
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PAGE 7	LETTERS TO THE EDITOR
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PAGE 11	GENERAL MEETING MINUTES

**But don't stop there! Each issue is
50 or more pages of fun and cool
stuff to explore! Scroll on!**



HAVE A SUBMISSION FOR OUR NEXT ISSUE?

loggersbark@gmail.com

FROM THE DESK OF THE VP

Insights from our Vice President

Adam Barbera
W2NCC

THE ARRL KIDS' DAY was held on January 6, 2024, to introduce young people to the fun and excitement of ham radio. The event encouraged radio amateurs to share their stations and skills with children, grandchildren, nieces, nephews, and friends. Kids' Day participants were able to make contacts with other kids and exchange information such as name, age, location, and favorite things.

Over the weekend of January 12 through 14th, the Radio Club of Tacoma held an event promoting ham radio to young people by cosponsoring an event focused on introducing ham radio to high school aged students. The event, called Camp Quest Northwest, was held at the clubhouse. This was a 4-day event with the students arriving on Friday January 12th and spending a long weekend at the clubhouse learning about Ham radio concepts.

Monday before departing, both counselors and students had an opportunity to test for the technician's license. In support of this event, RTC provided use of the clubhouse, technician class training manuals and covered the testing cost for the students.

Any student who passed their technician test received a nice VHF/UHF handheld transceiver called a [QRZ-1 Explorer](#) (a customized version of a TYT TH-UV88). The radios were donated by Gigparts.com in collaboration with QRZ.com. Dave **W7UUU** worked with [QRZ.com](#) and [Gigparts.com](#) to coordinate getting the transceivers into the hands of the students as they passed their exams, at no cost to the student.

Dave also programmed the radios with 86 repeaters in Western Washington, all of which are responsive to new ham operators (all of the repeaters were active in the [Repeater Roundabout](#) event). This event was a huge success introducing young people to ham radio. Maybe this can become an annual event the club can sponsor.

[There will be a full write-up of the Camp Quest event in the March issue of Logger's Bark, complete with back-story and many photos of the group —ed.]

Winter field day was the last full weekend in January. This year BJ **WA7WJR** organized the club's combined [Winter Field Day](#) and POTA event. It was held at Kitsap Memorial State Park where we enjoyed the beauty and diversity of nature and Washington weather. On Friday we set up antennas and activated [Kitsap Memorial State Park](#) for POTA. The same antennas were then used for winter Field Day operations. If you have not done so, I highly recommend you take some time to experience the thrill of operating in challenging conditions and environments of winter field day!

Just like with the ARRL Summer Field Day in June, it's not a contest but rather an event focused on fun, socializing, experimenting with antennas and radio setups, and above all, making contacts across the country and around the world.

That's it for now!

73 until next month,

Adam **W2NCC**
Vice President



THE BIG RESET! Years ago the Loggers Bark sort of crept in time from being a “mostly published the first of the month” publication to being an end of the month affair. Nothing really wrong with that of course, when you think about it. I mean, content is content, right?

But some things just seem to make for better reading when they are “forward looking”, while other content indeed looks better through the rearview mirror. Examples of rear-looking content would be the meeting minutes. It’s an easy thing to picture this sort of content as a historical element. And other content, such as calendars and birthday announcements just seem to make more sense when looking towards the future.

Add to this the fact that virtually all magazines appear roughly the first of every month, if not sooner. And what is a newsletter if not a “miniature magazine”?

Lastly, in polling many members over the last few months, the consensus has strongly pointed towards a desire to have the Bark go back to a “first of the month” issuance rather than end of month.

So starting with this issue, that’s what we’ll be doing. You will see a few things missing this month compared to last, and a repeat of the January Board and General Meeting minutes. But that’s just a necessary adjustment in order to slide the publication back in time, without putting undue pressure on column content creators to double their output for a single month to meet the change to the first of the next month.

I truly hope our members will appreciate the re-setting of the Bark back to its roots of being published nearer the first of the month rather than the last.

Best of all, for the contributors, is the Editorial Cutoff *doesn’t change at all*—it’s still the 15th of every month, just as it has been for many years... it makes little difference to the date of publication.

I’m hoping folks are settling into the new format and content, and I fully welcome *all* input. And of course, if you have an interest in a column contribution of any kind, just ping me any time to discuss publication. My official email for all things Logger’s Bark is LoggersBark@Gmail.com

Thanks for reading, and I hope to hear from members every month with comments of any kind.

Best of 73

Dave, **W7UUU**—editor





THE RCT MAILBAG

A reader writes, "...so why not have a calendar for the next month on it with contests and birthdays and W7DK radio events on it?" -Mr. Ham

EDITOR: Dear Reader... Great points, all! Except for the fact all of those things are *already in the January edition*. But it does make sense to put them all closer together. So in this edition, the calendar of club events, the birthdays table, and the WA7BNM Contest Calendar are all in close proximity to each other. Thanks for the suggestion!



Just email your letters and comments to

LoggersBark@gmail.com and you will see your letter on this page in a future edition.

Remember: Starting with THIS ISSUE, the Bark is now FORWARD looking, published at the *first part* of the month rather than the *end* of the month.

Thanks for reading!
Ye Olde Editor

ye Olde Editor

Bits and Bobs

The concept we would call a newsletter today began in [mid-fifteenth-century Venice, Italy](#). Subscribers would receive handwritten letters twice a week rounding up interesting events. Sixteenth-century merchants used similar news sources to keep track of exchange rates, taxes, and other biz news. 🤔

Lesser-Known Editing and Proofreading Marks

- zz-z-z delete ~ no one cares
- 🐱 mixed metaphor, eh?
- ★@! insert 4-letter word for emphasis
- 🔪 remove permanently from your lexicon
- ∞ too long
- 👁 too silly
- 🙏 you wish
- 👤 pls revisit your politics
- 🔪 pls cut the crap
- 🔍 pls paraphrase ~ obviously stolen from Web
- 🚫 pls don't eat Pringles while you work

© 2005 Eve Corbel True Funnies

GUEST EDITORIAL

The place to express yourself on a Ham topic



JANUARY 24, 2024—Well for most of us Covid is over and it's now time to get back to normal. I myself have been lucky and to my knowledge have not caught it yet.

I, like many of you, are closer to the end of the road and because of that do not like to drive at night so going to club meetings after dark is a no-no and like a lot of you it's a long drive down to the clubhouse taking over an hour in the dark. Zoom is the answer, well, for someone who can't hear phones. Well I don't have a phone, home or cell, and in fact don't live in a cell area.

So what I am working my way into is bringing back club meetings during the day on Saturday afternoon like we did pre-Covid. We used to have a deal at the Eagles Club for use of their hall and if possible I am sure it could be scored again.

So what can we as readers of the bark and club members do? Put your views on paper, on the air, in person to the leadership of the "Mighty DK" and let them know how you feel on going back to something that works. It also puts it on a map for future hams to show up and be greeted and shown a simple path to get on the air with a callsign and entry level license. I don't think Zoom does that real well.

Next thing we have to do is attract young hams to ham radio and away from that cell phone or game computer. I am sure I am out of date with what young people are into but if Facebook is one of the

things they are interested in we are in trouble. Our picture on the Facebook page is a hundred years out of date. Great we are showing equipment out of the 1920's but for me I don't think that will generate interest in young people. There should be a picture of younger people doing radio in modern times. Pictured below is what's on Facebook now.

Give your thoughts on recruitment of new members to the new planning group led by Manny **AD7MA**. Let the board know on returning to day time club meetings, talk about it on the club repeaters and at the same time get some new contacts for your "Loggers certificate".

I am sure I am not the only one with issues of driving at night. Let's work together for the betterment of the club. It can be done and returning to day time meetings is a good start.

Bob Heselberg, K7MXE

Member #461 from July of 1960



Submitted: W7DK Facebook Profile Photo

Want to write a guest editorial? Send it in!



THIS IS AS MUCH World Ham Radio news as it is ARRL news so it seemed fitting to publish in this section of the Bark.

FOR IMMEDIATE RELEASE

ARRL is New Publisher of Gordon West, WB6NOA

ARRL The National Association for Amateur Radio® has become the new publisher of the Amateur Radio License Preparation books and related resources authored by Gordon West, WB6NOA. Gordon West's popular books, classes, and audio courses have been a mainstay of amateur radio licensing for over 40 years.

Current editions of Gordon West's popular license prep books will be available from ARRL and ARRL publication dealers soon:

- **Technician Class** FCC Element 2 Amateur Radio License Preparation, 10th Edition 2022-2026
- **General Class** FCC Element 3 Amateur Radio License Preparation, 11th Edition 2023-2027
- **Extra Class** FCC Element 4 Amateur Radio License Preparation, 8th Edition 2022-2024

The books, including future editions, will continue to be authored by Gordon West with Technical Editor Eric P. Nichols, **KL7AJ**. Nichols is a regular contributor to ARRL publications, and has written several ARRL books. He has collaborated on the Gordon West books since 2013.

Gordon West Named ARRL National Instructor

ARRL Education and Learning Manager Steve Goodgame, K5ATA, has also announced that Gordon West has been named ARRL National Instructor. Goodgame leads ARRL programs that benefit amateur radio volunteer instructors and professional educators. "Gordon West will serve as the ambassador for the new ARRL National Instructor Program," said Goodgame. "The program will place greater emphasis on connecting prospective hams with opportunities to find ARRL Affiliated Radio Clubs and classes. The National Instructor Program will also support ARRL volunteer instructors with new resources for teaching amateur radio courses and for developing licensees."

Heard some ham radio WORLD news? Send it in!



HAM RADIO WORLD NEWS

Amateur radio events from around the world



About Gordon West, WB6NOA | Gordon West has been an amateur radio operator for more than 60 years, holding the top-level license of Amateur Extra, call sign WB6NOA. He also holds an FCC Commercial Operator License, the First Class General Radiotelephone Certificate with Radar Endorsement. A frequent guest and presenter at ham radio conventions, West is well-known by the amateur radio community for his unique educational style and commitment to developing instructors. His work has benefited thousands of new amateur radio licensees. He is an ARRL Life Member, and has earned many recognitions including ARRL Instructor of the Year and Dayton Amateur Radio Association 2006 Amateur of the Year. The Gordon West Ambassador of the Year Award is presented annually by Orlando HamCation® to an amateur who has made outstanding contributions to the amateur radio community.

About ARRL | ARRL The National Association for Amateur Radio® was founded in 1914 as The American Radio Relay League, and is a noncommercial organization of radio amateurs. ARRL numbers within its ranks the vast majority of active radio amateurs (or “hams”) in the US and has a proud history of achievement as the standard-bearer in promoting and protecting amateur radio. ARRL supports members with opportunities to discover radio, to develop new skills, and to serve their local communities. For more information about ARRL and amateur radio, visit www.arrl.org.



Gordon West, WB6NOA

Heard some ham radio WORLD news? Send it in!

ARRL NEWS & VIEWS

What is the League up to this month?



W1AW

ARRL BOARD APPROVES Free Membership for Students. New Vice Presidents Elected

From ARRL Member Bulletin:

The ARRL Board of Directors met in Windsor, Connecticut, for its Annual Meeting, January 19 – 20, 2024. ARRL President Rick Roderick, K5UR, presided over the meeting, and the Board welcomed Great Lakes Division Vice Director Roy Hook, W8REH, as a newly elected member to the Board.

Here are highlights of some of the actions taken at the meeting:

- Board members discussed proposed changes to By-Law 46, the Board's Conflict of Interest Policy, and decided to consider revisions at a later date. The Board unanimously voted to approve the establishment of a committee appointed by the ARRL President to affirm the set of **ethics guidelines and standards for the Board**. In addition to the guidelines, the committee will review By-Laws 42 (Ethics and Elections Committee) and 46 for possible revision. The committee will also engage with a competent legally qualified independent third party to handle all Ethics & Elections inquiries in the future.
- The Board voted to make the **ARRL Director's Workbook** publicly available on the ARRL website.
- The Board approved the reintroduction of **ARRL Life Membership and 70+ Life Membership** (for members of age 70 and over) on a revenue-neutral

basis. At its July 2023 Second Meeting, the Board had suspended the Life Membership Program, pending the approval of an adjusted revenue-neutral program.

- The Board approved two motions aimed at engaging young hams with a strong start to their life-long journey with amateur radio and ARRL:

- **FREE ARRL Membership for Students.** For decades, ARRL has offered a reduced dues rate for young hams, currently priced at \$30 per year. At this meeting, the Board established a new option for a no-cost Associate membership for full-time students of age 21 and younger.

- **ARRL Student Coding Competition.** The Board approved the creation of a coding competition that will challenge students 21 and younger to design a software application that meets the specifications established by ARRL. Awards of up to a total of \$25,000 will be granted by an awards committee to the winning student(s). The terms and schedule for the competition will be determined by the committee.

- With a goal of recruiting and developing greater participation in the **ARRL Amateur Radio Emergency Service® (ARES®)**, the Board has approved, at the recommendation of the Emergency Communications and Field Services Committee, a commitment to expand messaging and marketing for the program.

Government Relations.

ARRL NEWS & VIEWS

What is the League up to this month?



W1AW

- The Board issued its strongest rebuke of efforts by the ad-hoc group “Shortwave Modernization Coalition” (SMC) to introduce high-power signals to the shortwave spectrum, including frequencies immediately adjacent to the Amateur Radio HF bands. The Board made a clear statement that the interests of the SMC are in conflict with those of ARRL and its membership, and has requested that the ARRL Volunteer Monitors explore ways to gather data on SMC station emissions.

- The Board voted to expand ARRL’s ongoing efforts to help hams who are faced with involuntary limitations that limit their amateur radio operations beyond the regulatory efforts being pursued in Washington.

ARRL Foundation. The Board heard a report ARRL Foundation President David Norris, K5UZ. The Foundation, which marked its 50th anniversary last September, provides philanthropic support for amateur radio by way of the ARRL Foundation Scholarship Program, Club Grant Program, and through other grants and funds. In 2023, the Foundation awarded 113 scholarships totaling over \$600,000, through the generosity of individuals and clubs. Norris also recognized the generous commitment made by Amateur Radio Digital Communications (ARDC) which will fund over \$2.1 million, over three years, to support scholarships, radio technology for classroom teachers, and amateur radio club grants.

Elections.

- *Officers.* The Board re-elected ARRL President Rick Roderick, K5UR, to a fifth 2-year term. The Board also elected Pacific Division Director Kristen McIntyre, K6WX, to be First Vice President, succeeding Michael Raisbeck, K1TWF. Northwestern Division Director Mike Ritz, W7VO, was elected Second Vice President, succeeding Bob Vallio, W6RGG. International Affairs Vice President Rod Stafford, W6ROD, was re-elected.

- The elections of McIntyre and Ritz to the Vice President positions mean that incumbent Vice Directors Anthony Marcin, W7XM (Pacific), and Mark Sharp, KB7HDX (Northwestern) will succeed as Division Directors, creating vacancies for Vice Director in those Divisions, which will be filled by appointment.

- *Executive Committee.* As First Vice President, Kristen McIntyre, K6WX, will remain on the Executive Committee (EC), succeeding former Vice President Raisbeck. Directors re-elected to the EC include Dr. Jim Boehner, N2ZZ (Roanoke); Fred Kemmerer, AB1OC (New England), and Art Zygielbaum, K0AIZ (Midwest). Newly elected members include Jeff Ryan, KORM (Rocky Mountain), and Bill Lippert, AC0W (Dakota).

The complete minutes of the 2024 Annual Meeting of the ARRL Board of Directors will be available soon on the ARRL website. The next meeting of the ARRL Board of Directors is scheduled for July 19 – 20, 2024. ©2024 ARRL

BOARD OF DIRECTORS

Minutes from this month's meeting



W7DK

NOTE: Other than graphical formatting to fit the allotted space, Minutes are not edited verbally in any way including spelling, grammar, etc. -ed.

Radio Club of Tacoma

Board of Directors Meeting Minutes

(01/03/2024)

Meeting called to order at 1903 PST

Officers and Directors Present

x	President	Mike Mikuchonis W7XTZ
x	Vice President	Adam Barbera W2NCC (Via Zoom)
x	Secretary	Gary McAdams WG7X
x	Treasurer	Steve Dightman AF7YD
x	Board	Mike Drorbaugh W7MKE
x	Board	Paul Matney W7PFU
x	Board	Doug Schafer AB7DG
x	Board	Red Crane field WB7EC
x	Board	Phil Pia K7PIA (Via Zoom)

Quorum? YES

Silent Key or Illness?

Nick, K7MO is back at home recovering.

P.J. N7PH passed 12/11/2023. No services planned at present.

Raider NS7SN passed 12/05/2023.

From Membership: we were informed that Paul W7MSG expired in 2018. Forwarded from Bob K7MXE to membership.

Also from membership: Barbara Osborne W7UYL Passed 2022-11-28 She used to be the manager of the Loggers Certificate back in the day 1957 to 1997. This was passed to Nick K7MO and then Dave W7UUU.

Approval of Minutes

Minutes of December 6th BOD meeting approved as circulated without objection.

Secretary's Report (WG7X)

New Secretary, Gary WG7X takes on the job of secretary from Mike W7MKE this month. Mike is not going away, just changing jobs to be a BOD member. Mike left Gary (new secretary) with some very big shoes to fill. Thankfully, Mike will still be around to keep Gary on track!

Usual membership renewals, PO Box renewal. Etc. etc..

Review and update Signature cards at US Bank.

Usual junk mail interspersed with renewals, PO box renewal.

(Continued on page 12)

BOARD OF DIRECTORS

Minutes from last month's meeting



W7DK

(Continued from page 11)

Treasurer's Report (AF7YD)

Review Crawford Mountain repeater lease. (Already sent to Treasurer)

Committee chairs to submit annual budgets to Treasurer.

Insurance will be updated when the new proposal arrives.

Treasurer Steve AF7YD brought draft Financial Report for perusal of the board. Steve showed that expenses for 2023 exceeded income by approximately \$*** dollars, so we were balanced budget for the year. Steve will continue to review and correct the various financial reports for the February BOD meeting.

Reviewed income vs loss reports. Steve began a presentation for the process to discuss policies for submitting committee budgets to the BOD.

Doug AB7DG asked about the progress in getting Anne N7ANN ready for her Assistant Treasurer job. Steve said that they are in progress with this. It has been delayed due to being very busy over the holidays and year-end activities.

Steve continued reviewing the Budgets & Expenditures taken from the Bylaws. Line by line discussion ensued, which are all covered in the attachments to this report.

Mike W7MKE suggested treasurer should be given a set number in dollars for the reserve that the club needs to maintain.

Adam W2NCC suggested that the budget process should begin in October of 2024 for the 2025 season. Discussion followed.

Dan KD7SV suggested / asked that we have a form (which we have) for submitting a budget. The form already exists and can be used. It is available on the NAS. (Network Attached Storage). The form is not that easy to find at present, but it will be made more available in future. Mike W7XH has already addressed the form and sent it to the requesting people.

Long Range planning was discussed. Will eventually cover future planning out to three years.

Public Service and Funding plans. Reserve funds supporting the RCT are necessary to support the purposes of the club. Things like Core Expenses (utility bills) Activities (Field Day and POTA) Optional expenses (New Equipment possibly).

Mike W7MKE asked the Treasurer about the levels needed as reserve for the next three years. Suggested either \$*** or \$*** Discussion settled on \$*** Mike mentioned \$*** expenses last year.

Adam W2NCC wanted to suggest single page forms for budget submittals and having all those submitted budgets accessible to the general membership. 2023 expenses were in the \$*** range.

Mike W7XH will send blank budget submittal forms to Dan KD7SV and B.J. WA7WJR. They did not have those forms to use to submit. Forms were sent on Thursday 01/14/2024.

Discussion continued with budget submissions between Adam W2NCC and Mike W7MKE about knowing our reserve and the ability to forecast budgets.

(Continued on page 13)

BOARD OF DIRECTORS

Minutes from last month's meeting



W7DK

(Continued from page 12)

Mike W7XH asked BOD to set a deadline for budget submittals in future. Discussion continues about "Extraordinary" or normal expenses versus capital expenditures. Budget Items more than \$**** will still need approval of the membership.

Dan KD7SV asked whether the \$*** spent on facilities was included in the 2023 funds expenditures. Adam W2NCC replied in the affirmative. Adam then continued that he submitted a request for furnace replacement in the future range of expenses. This was covered in his current facilities budget request.

Mention made by Doug AB7DG for approval of continuing expenses budgets here and now.

Mike W7MKE went on to ask again for a reserve level of funding to be set and approved. He suggests \$65k as a hard bottom reserve. Then Steve will put together a spreadsheet including the various committee budget requests.

Mike made a motion that our reserve is not to be drawn down below \$*** for 2024. Excluding core expenses of approximately \$12k. Much discussion followed. Roll call vote was made of all Officers and BOD members. Motion approved.

Motion made by Mike W7MKE that we consider approval of all budgets that are not more than \$5k and discuss all budgets that are more than the \$5k limit. Motion carried after discussion.

Committees that are more than the \$*** limit are HF, Tower and Facilities.

President appointed Red WB7EC, Mike W7MKE and Dan KD7SV to an ad hoc committee to discover / find a committee chair for EMCOMM committee.

All budget proposals are attached to this report.

Budgets passed by the BOD are:

Library: \$*** (subscriptions and acquisitions).

IT: \$*** (Brother printer parts, Domain names and website expenses, replacement of storage devices for Network Attached Storage).

Repeaters: \$*** (Technical help, parts).

Membership: *** (Office Supplies and Postage for multiple mailings).

RF Lab: \$*** (basic tools).

Smaller budgets expected to pass w/o objections are for:

Museum

POTA

Budgets needing review and prioritization prior to approval. Listed are major items in those budgets.

(Continued on page 14)

BOARD OF DIRECTORS

Minutes from last month's meeting



W7DK

(Continued from page 13)

HF Committee: \$*** (new amplifier & auto tuners, band pass filters, IC-7300).

Facilities Management: \$*** (Furnace, garage repairs, weed whacker, shelving, lighting, Security).

Tower: \$*** (Galvanize the tower).

Committee / Reports

Membership (W7XH/K7GRS)

Mike W7XH has sent out reminders to lapsed members that had been sent out to members previously and received some pushback about supposed lack of feedback or encouragement from someone who had let his subscription go

Doug AB7DG read part of his recent message to Mike W7XH suggesting that new members be sent information about club activities and membership privileges. The secretary has also received an email on this subject from the ARRL Division Section Manager Monte W7FF from a fellow that had elevated his complaint to him, our SM. Might be the same fellow who complained to our other staff members. Call sign redacted for obvious reasons.

Mike is working with the member to smooth things over. Mike reports that he purged the membership roster, resulting in 250 current active members with 246 voting members currently down from 331 as of close of business 2023.

Salmon Run ended with \$*** pledge donations and \$*** of in-kind donations. Salmon run is finished for now. Some more funds might be pending.

Membership Committee submitted budget. Budget approved.

Library (AD7AV)

Training (AD7AB)

Class this upcoming weekend 01/07/2024 – 01/08/2024

No budget submitted for the training committee.

Camp Quest NW. On Schedule, going as planned.

VE (AC7WW)

Friday, December 8th your VE Team traveled South to JBLM. We tested eight candidates. Results were six new Technicians, one General and one Extra.

(Continued on page 15)

BOARD OF DIRECTORS

Minutes from last month's meeting



W7DK

(Continued from page 14)

Thanks to the following for their service and time.

Mike W7XH, Rob K7TGU, Steven AI7QM

We had a huge turnout Tuesday December 12th, 2023, at the clubhouse. One candidate passed element 3 to upgrade to General and another candidate passed element 4 to upgrade to Extra.

Thanks to the following for their service and time.

Leonard KA7NWF, Rich KK7VH, Mike W7XH, Rob K7TGU and Stephen AD7AB.

The next scheduled test session is Tuesday, January 9th, 2024.

Info Tech and Website (WB4SPB)

All systems are Nominal.

HF Operations (K7PIA)

Tower (K7MO)

Budget under review. Work still in wait status as Nick K7MO continues recovery phase. Adam W2NCC will fill in / assist in the meantime.

Repeater Ops (N7OMS)

Facilities Management (W2NCC)

Property Management (WB7EC)

\$*** was made in the last month. The Property Disposal committee also has no current budget request.

Two items TS-520 and Service monitor available for sale. Permission to sell granted by President Mike W7XTZ.

Mike & Key table?

PMT committee.

Currently in process

Museum (KD7SV)

(Continued on page 16)

BOARD OF DIRECTORS

Minutes from last month's meeting



W7DK

(Continued from page 15)

Weds Workshop (WB4SPB)

No subject decided on at present.

General Meeting (W7UUU)

The program is by one Tim Kulman, KD7RUS, from the Clark County Radio Club, on the planning and installation of an amateur radio tower system.

Unfinished Business

Mike asked Steve about the progress with getting funds into the money market. Accounts have some issues, but this is in process. Mike continued asking about it because of potential loss of interest funds if this is delayed too long.

New Business

New officers, Gary WG7X Secretary, Mike Drorbaugh W7MKE Board. An update report has already been filled out with the ARRL.

President to formally appoint new officers/ committee chairs? Blanket approval was given by Mike to all current committee chairs.

Review / Update Randy's edit of the RCT standing rules. Publishing standing rules to the public was considered and changes made to standing rules to remove possible data such as user ID's from the standing rules to conceal them from the public before putting the Standing Rules on the website.

Mike W7MKE made a motion to accept the changes to the public Standing rules and to publish them on the website once approved. Motion approved.

Activity Reports, Discussion Topics, Announcements.

POTA winter field Kitsap Memorial Park, Last weekend in January. Six folks will be there Saturday through Sunday operating. Also mentioned KE7YLJ's welcoming packet. Mike W7XH is generating that.

Adjournment at: 2120 PST

END OF REPORT

GENERAL MEETING

Minutes from last month's meeting



W7DK

NOTE: Other than graphical formatting to fit the allotted space, Minutes are not edited verbally in any way including spelling, grammar, etc. -ed.

Radio Club of Tacoma General Meeting Minutes January, 10th 2024

Officers and Directors Present

X	President	Mike Mikuchonis W7XTZ
X	Vice President	Adam Barbera W2NCC
X	Secretary	Gary McAdams WG7X
X	Treasurer	Steve Dightman AF7YD
X	Board	Doug Schafer AB7DG
X	Board	Phil Pia K7PIA
X	Board	Paul Matney K7PFU
X	Board	Red Cranefield WB7EC
X	Board	Mike Drorbaugh W7MKE

Meeting Called to Order at: 1901 PST

Flag Salute

Quorum (10% of membership required to "conduct business.")

Quorum Yes.

Welcome and Acknowledgement of New Members and Visitors (Please introduce yourselves)

New member Jeff KK7PRJ, Visitor Tim KD7RUS program presenter. Good presentation.

Doc Spike Award: Presented by Mike W7XH to Paul K7OSS [*see section following these minutes – ed]

(Continued on page 18)

GENERAL MEETING

Minutes from last month's meeting



W7DK

(Continued from page 17)

Program (Dave W7UUU)

The program is by one Tim Kulman, KD7RUS, from the Clark County Radio Club, on the planning and installation of an amateur radio tower system. Tim did a fine job showing us how to do a proper installation of a crank up tilt over tower. His tower is three sections and goes up 50 feet.

Health and Welfare/Silent Key & Illness

Nick, K7MO is back in the hospital due to complications.

P.J. N7PH passed 12/11/2023. No services planned at present.

Raider NS7SN passed 12/05/2023.

From Membership: we were informed that Paul W7MSG passed in 2018. Forwarded from Bob K7MXE to membership.

Also from membership: Barbara Osborne W7UYL Passed 2023-11-28. She used to be the manager of the Loggers Certificate back in the day. 1957 to 1997. This was passed to Nick K7MO and then Dave W7UUU.

Secretary's Report

Five or Six renewals, several bank statements, and some junk mail from realtor(s) wanting to buy the clubhouse.

Treasurer's Report

Steve detailed many different amounts on the various accounts that need to be reconciled. Currently a work in progress. Details of reports are available on the RCT website at the conclusion of the analysis. Apparently there are /were some small discrepancies. Treasurers report in full should be in February.

Committee / Activity Reports

(Continued on page 19)

GENERAL MEETING

Minutes from last month's meeting



W7DK

(Continued from page 18)

Membership (Mike W7XH)

Mike reports that he purged the membership roster on January 3rd, resulting in 250 current active members with 246 voting members currently down from 331 as of close of business 2023. Currently, 17 new members have been added to the roster, putting us at 267 members now.

Salmon Run ended with \$10,228 pledge donations and \$3,028 of in-kind donations. The Salmon run is finished when the final contributions have been received. That might continue into 2024.

Training (Stephen AD7AB)

Training is ongoing with normally one training class each month as reported by President Mike W7XTZ. Camp Quest NW is going on this weekend, and they plan to take exams after the event. The training protocol that they use is different from what Stephen uses. 16 kids are expected to attend all of them who are high school age.

Dave W7UUU reports that 15 QRZ-1 Explorer handhelds have been donated through QRZ & Gigaparts.

Adam W2NCC suggested that letters of thanks be sent to the sponsors: QRZ and Gigaparts.

Club will provide training manuals and associated materials to the participants and will cover their exam costs.

VE Report (John AC7WW)

Tuesday, January 9th, 2024, your VE Team graded 29 exams from two sessions at the clubhouse. 11 candidates passed their technician exam, one candidate passed their Tech and General exams. one candidate passed element two, three and four to become an Extra.

Thanks to the following for their service and time.

Leonard, KA7NWF Rich, KK7VH

Mike, W7XH Phil, K7PIA

The next scheduled test session is Tuesday, February 13th. Time to be determined.

(Continued on page 20)

GENERAL MEETING

Minutes from last month's meeting



W7DK

(Continued from page 19)

HF Operations (Phil K7PIA)

Phil reports for the month of January everything is working and ready for the weekend event. Reports that NAQP CW is this coming weekend. Some issues with the VHF/UHF vertical in the HF room. The beams for VHF/UHF are operational.

Repeater Operations (Al N7OMS)

No report. Comments made about low participation during nets.

IT Report (Randy WB4SPB)

Fourth weekend subject to be determined. IT All nominal.

Museum (Dan KD7SV)

Drake L4Bi is now functional. Will be released to the PMT committee for sale.

SKN turned out well, five pizzas consumed. Gave out six gift cards as rewards during the CW bingo game.

K3Y operations on the 8th of January 26 contacts made in one hour by Randy WB4SPB. Another K3Y event is coming up on the 16th on January 11 & 12. TS-520 is also almost ready to go to PMT.

Property Management (Red WB7EC)

No report.

Facilities Management (Adam W2NCC)

Several small projects are planned for 2024. Trying to keep the members off the ladders this year. Garage alarm and siding proposed. Shed alarm work is also in progress.

4th Wed. Night Activity (Randy WB4SPB)

Fourth weekend subject to be determined.

Bark Editor (Dave W7UUU)

New, improved Loggers Bark in progress, will be out in late January. Dave wants to make the newsletter a forward-looking publication. Everyone is looking forward to the new Loggers Bark.

(Continued on page 21)

GENERAL MEETING

Minutes from last month's meeting



W7DK

(Continued from page 20)

Not related to the Loggers Bark directly, but Dave also gave a short Presentation on the Loggers Certificate that is given to members of the club and others who work at least ten members of the club. Gary WG7X is the current record holder with 300 members worked over the last 35 or so years.

Unfinished Business

Mike W7MKE reports that President has assigned Doug Schafer AD7BG as the chairman of an Ad hoc committee chairman for a new EmComm committee.

Budgets passed by the BOD are:

President Mike discussed upcoming budget requests. We (RCT) are going to make annual budget requests necessary going forward.

Library: \$*** (subscriptions and acquisitions).

IT: \$*** (Brother printer parts, Domain names and website expenses, replacement of storage devices for Net work Attached Storage (NAS)).

Repeaters: \$*** (Technical help, parts).

Membership: \$*** (Office Supplies and Postage for multiple mailings).

RF Lab: \$*** (basic tools).

Smaller budgets expected to pass w/o objections are for:

Museum

POTA

Budgets needing review and prioritization prior to approval. Listed are major items in those budgets.

HF Committee: \$*** (new amplifier & auto tuners, band pass filters, IC-7300).

Facilities Management: \$*** (Furnace, garage repairs, weed whacker, shelving, lighting, Security).

Tower: \$*** (Galvanize the tower).

(Continued on page 22)

GENERAL MEETING

Minutes from last month's meeting



W7DK

Will notify membership 10 days ahead of the next general meeting because we need a quorum for approving budgets for 2024.

New Business

George K7GRS mentions comments from naysayers in recent messages sent to the club during the BOD meeting. George mentions that Clay Bermhalt Member #711 put positive comments on the Tacoma Chamber of Commerce website. Comments put the "Amateur Radio Club of Tacoma" in a positive light.

Show and Tell

President Mike asked Dan KD7SV to comment on the Boeing 767 in the background of his ZOOM page. Dan used to fly for UPS. Rockwell Collins radios on the plane made it easy to make contacts on HF while in flight. Dan flew those airplanes for over 20 years. Made mention of the plane being able to fly comfortably at over .8 Mach (600+ Mph –Ed)

Tuning and Traffic

Gary WG7X reported that he made 504 contacts on the January ARRL RTTY Round Up.

Announcements

BJ WA7WJR reports the winter field day event will be 27-28. If you plan to come it's at Kitsap Memorial state park. Please come on Saturday, not Sunday.

Adjournment

2055 PST

END OF REPORT

AROUND THE CLUBHOUSE

Recent Photo highlights from the Clubhouse



W7DK



*Camp Quest Northwest—Radio Weekend event
Full story in next month's Bark!*



*Camp Quest Northwest—Radio Weekend event
Full story in next month's Bark!*



*Camp Quest Northwest—Radio Weekend event
Full story in next month's Bark!*



*Camp Quest Northwest—Radio Weekend event
Full story in next month's Bark!*

Got pictures from the clubhouse? Send 'em in!

*All photos this page provided by
Mike KK7QMG of Camp Quest*

AROUND THE CLUBHOUSE

Recent Photo highlights from the Clubhouse



W7DK



Photo Mike W7MKE

Emily age 8 made contact with VE3EFY on January 6th for ARRL Kids Day at W7DK



Photo Mike W7MKE

David Ashley W7GEL setting up his IC-756Pro at the Kitsap Memorial Park POTA on January 26th

Photos this page Dave W7UUU



Photo Mike W7MKE

BJ Rollison WA7WJR in the cabin at Kitsap Memorial Park POTA 1/26-1/27, 2024



Camp Quest photo

Phil K7PIA introducing the Camp Quest campers to the IC-7610 radio. Full story in the March Logger's Bark edition

Got pictures from the clubhouse? Send 'em in!

AROUND THE CLUBHOUSE

Recent Photo highlights from the Clubhouse



W7DK



Steve AF7YD runs the 80m Emergency Net for Washington State taking check-ins

Oliver Bond	AD7CC	2/1/1928
Gary Farris	KE7WMQ	2/2/1953
Alexine Adonis	KK7IJX	2/5/1972
Jennifer Johnson	KK7IJY	2/5/1972
Carl Rosevear	KB7LIG	2/6/1979
Larry Shank	KT7WTF	2/6/1950
Nikolas Geil	KK7IYT	2/6/1999
Bob Garden	KF7GPO	2/8/1935
Joseph Pavia	KD7LJ	2/9/1955
Paul Matney	W7PFU	2/10/1941
Phillip Rosser	K7PGR	2/10/1947
Dr. Douglas Oakman	AD7AV	2/11/1953
John Wheeler	KA7RMG	2/12/1952
Mark Terjeson	N7FIT	2/14/1954
Dale Skyllingstad	AH6ET	2/15/1988
Raphael Zvetkoff	AI7RB	2/15/1953
Christopher Maher	N7CPM	2/17/1986
John Arbaugh	W7PUY	2/19/1960
Perry Angiono	WB7NIL	2/20/1961
Steven Mulvey	N9MII	2/20/1978
Pamela Terjeson	KC7AZV	2/21/1954
Paul Pettinger	KG7FTN	2/22/1956
David Jerauld	KJ7AKG	2/23/1960
Mike Campbell	KE7JAS	2/23/1947
John Thomas	N7JFM	2/24/1950
George Salisbury	K7GRS	2/25/1941
Wayne Gilham	KD7VWM	2/25/1948
David Riley	W7BAD	2/26/1942
Radik Galyautdinov	KG7HWU	2/26/1964
Mike Holmen	AG7QW	2/27/1942



Paul K7OSS fills in in the kitchen preparing for Last Saturday hotdog time!

Photos this page by Bob K7MXE

Got pictures from the clubhouse? Send 'em in!

All photos this page by Dave W7UUU

February Birthdays!!
Happy Birthday to All!!



THIS MONTH'S CALENDAR

Always check the W7DK website for latest news



W7DK

January		February, 2024				March	
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
				1	2	3	
5 January	January	January	January				
4	5	6	7 07:00pm Board meeting	8	9	10	
11	12	13 07:00pm VE License Exam ...	14 07:00pm General meeting ...	15	16	17 Salem OR Rickreal Hamfest	
18	19	20	21	22	23	24	
25	26	27	28	29			
9	DON'T FORGET! Next month is Mike & Key Ham Fest				March	March	

Did you know?

The original Roman calendar, said to have been invented by the first king of Rome, had 10 months. It started with March, which may seem kind of strange to us now. Later, Roman ruler [Numa Pompilius](#) added January at the beginning and February at the end of the calendar. Eventually February was moved between January and March.

YEP I DID THAT !





HUGE thanks to Mr. Bruce Horn, WA7BNM for publishing his "[Contest Calendar](#)" for all these many years... a truly wonderful resource for finding virtually every ham radio contest on Earth that might be happening, in most any mode and most any region in the world. Follow the link to take you to the site, then

sort through the various options to find the specifics of every upcoming event. For now, here's the WA7BNM Contest Calendar for the coming month



February 2024

+ Vermont QSO Party	0000Z, Feb 3 to 2400Z, Feb 4
+ 10-10 Int. Winter Contest, SSB	0001Z, Feb 3 to 2359Z, Feb 4
+ Mexico RTTY International Contest	1200Z, Feb 3 to 2359Z, Feb 4
+ European Union DX Contest	1200Z, Feb 3 to 1200Z, Feb 4
+ FYBO Winter QRP Sprint	1400Z-2400Z, Feb 3
+ Minnesota QSO Party	1400Z-2400Z, Feb 3
+ AGCW Straight Key Party	1600Z-1900Z, Feb 3
+ British Columbia QSO Party	1600Z, Feb 3 to 2400Z, Feb 4
+ North American Sprint, CW	0000Z-0359Z, Feb 4
+ ARS Spartan Sprint	0200Z-0400Z, Feb 6
+ EACW Meeting	1900Z-2000Z, Feb 8
+ CQ WW RTTY WPX Contest	0000Z, Feb 10 to 2400Z, Feb 11
+ SARL Field Day Contest	1000Z, Feb 10 to 1000Z, Feb 11
+ Asia-Pacific Spring Sprint, CW	1100Z-1300Z, Feb 10
+ KCJ Topband Contest	1200Z, Feb 10 to 1200Z, Feb 11
+ SKCC Weekend Sprintathon	1200Z, Feb 10 to 2359Z, Feb 11
+ Dutch PACC Contest	1200Z, Feb 10 to 1200Z, Feb 11
+ CQC Winter QSO Party	0100Z-0259Z, Feb 11
+ 4 States QRP Group Second Sunday Sprint	0100Z-0300Z, Feb 12
+ ARRL School Club Roundup	1300Z, Feb 12 to 2359Z, Feb 16
+ PODXS 070 Club Valentine Sprint	0000Z-2359Z, Feb 14
+ NTC QSO Party	1900Z-2000Z, Feb 15
+ ARRL Inter. DX Contest, CW	0000Z, Feb 17 to 2400Z, Feb 18
+ Run for the Bacon QRP Contest	2300Z, Feb 18 to 0100Z, Feb 19
+ AGCW Semi-Automatic Key Evening	1900Z-2030Z, Feb 21
+ CQ 160-Meter Contest, SSB	2200Z, Feb 23 to 2159Z, Feb 25
+ REF Contest, SSB	0600Z, Feb 24 to 1800Z, Feb 25
+ UBA DX Contest, CW	1300Z, Feb 24 to 1300Z, Feb 25
+ North American QSO Party, RTTY	1800Z, Feb 24 to 0600Z, Feb 25
+ High Speed Club CW Contest	1400Z-1700Z, Feb 25
+ North Carolina QSO Party	1500Z, Feb 25 to 0100Z, Feb 26
+ SKCC Sprint	0000Z-0200Z, Feb 28

WA7BNM Contest Calendar data used with permission



THE W7DK ELMER BOARD

Do you have a skill or tool to help new hams?



YOU! YES YOU! Do YOU have a skill you could pass on to new amateur radio operators? Do you possess a skill or piece of gear that you're willing to share with others to fix antenna problems, diagnose noise issues, drive a ground rod, teach Morse, help teach technical topics? If the answer is YES you too could be a W7DK Elmer!! Let any

officer know what your skills are or how you could help new hams get a leg up on the hobby. And if you're one of those already on the list, are there any changes we should be aware of? If so please hit the email address (found bottom of page on the right) and let us know so we can update the W7DK Radio Club of Tacoma "Elmer Board"

NEW HAMS OR MEMBERS: If you are looking for help, and NEED AN ELMER to help guide your way, use this table! Find the skill you need on the left, then look for an Elmer Provider of that skill on the right and reach out to them. ALL of these Elmer's have committed to helping so please don't hesitate.

Elmer Board

Do you need help with some area in ham radio?

List of members' areas of interest.

1. Technical questions, Classes
2. Help with Code
3. License Examinations
4. Antenna and Station planning
5. Antenna and Tower erection
6. Buying new or used equipment
7. Equipment repair
8. Understanding and operating your equipment
9. DX and Contests
10. Club and ARRL activities
11. Using test equipment
12. IRLP, Digital, SDR, ARPS, Winlink, Vara, Satellite
13. Understanding How Electronic Circuits Work

Name/Call Sign /Phone Number/ Topic

Adam W2NCC 360-870-7894 (4,5,6,7,11)
 Dave N7HT 253-363-1692 (1,2,4,6,8)
 Steve AF7YD 253-988-087(1,2,7,10,11,13)
 Dave W7UUU 253-820-0890 (2,4,6,9)
 Al N7OMS 253-495-9068 (10,12)
 Mike W7XTZ 253-405-8095 (6,8,10)
 Stephen AD7AB 253-212-9437 (1,3,4,12)
 Randy WB4SPB 253-761-9391 (2)
 Phil K7PIA 253-307-4781 (9,10,12)



THIS MONTH'S Ham Radio Hospital article isn't about any specific rig in for repairs, but rather about an amazing bit of technology that I recently learned about that can in fact rescue a LOT of old rigs out there that remain in the Hospital for lack of some oddball crystal that can no longer be obtained.

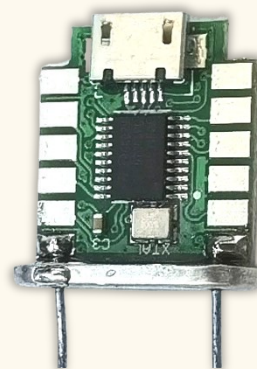
How many times in recent years have you, as a repair guy on some old piece of gear, realized that a critical crystal has either gone missing, drifted way off frequency, or stopped working altogether? It happens more and more all the time, as the old rigs just keep getting older.



But the hard fact is crystals for ham radio projects are simply no longer being made. At least not for what anyone would consider a reasonable price. Once upon a time, companies like PR Crystal, Texas Crystals, and Bliley offered virtually any style and frequency for a very reasonable cost. If they didn't have what you need on the shelf, they'd custom-grind one for you. After all, all that's inside a radio crystal is just that—a crystal: a tiny, thin wafer of quartz that has been ground and polished to a high precision such that when current flows through it, the frequency you desire is produced. Perhaps an oversimplification, but that suffices for this discussion.

Alas those days are long over. The sources left for small purchasers of custom crystals have dwindled to the point of nearly non-existent. And when found, the prices for a single crystal are exorbitant—easily \$35 to over \$100 and take weeks if not months to receive. And that's if they can even provide the frequency you are needing.

But fairly new on the horizon is something I truly consider to be a miracle cure for lost or broken radio crystals. It's called the ProgRock2 from [QRP Labs in Germany](http://www.qrp-labs.com).



PCB inside a CR6 Case

In short, it's a multi-chip micro-processor system mounted on a PC board that could easily fit inside of a typical HC6 or similar metal crystal case (.75" x .67"). See the photos to get an idea just how small these devices are. Think of the ProgRock2 as an 8-bank times-3 frequency-per-bank (24 frequencies in all) mul-

tiplexer, that can essentially replace 24 crystals with a single package!

The device comes factory assembled and ready to use. The 8 banks of frequencies can each be selected using a multiplexed 3-pin input (binary coded, or BCD). This allows for things like band-switching of heterodyne crystals in receiver or the heterodyne oscillator board of a vintage transmitter, for example.

The span of each synthesized frequency can range from 2 KHz to 200 MHz, making the ProgRock2 able to replicate essentially any crystal ever used in any radio of the past (and many of the present!). Frequency stability is well beyond the needs of amateur radio applications, but if super-extreme accuracy is required, the device is available in a GPS-disciplined version that uses GPS signals to drive even greater accuracy and stability.

The 24 frequencies are accessed in three groups of 8. One frequency from each group can be output simultaneously, and the "channels" within a bank selected externally. For just a single frequency output, it can even be installed in an old crystal holder, with just a single pin for b+, a pin for the frequency output, and the case for the ground. There are lots of applications to do just that and avoid the complexity of a multi-pin mounting and all the programming to build up banks.



Where sick radios come back to health

Programming is fairly straightforward, although will probably be alien to many users at first. It's handled via a serial terminal emulator program such as PuTTY running under Windows or Linux. The user must set the appropriate serial communication string parameters within

```

ProgRock2 version 1_01

Adjustment      0
GPS threshold   0
Cal #1          5
Cal #2          3

Bank 0 *        9000000
Bank 1          12500000
Bank 2          19500000
Bank 3          33500000
Bank 4          0
Bank 5          0
Bank 6          0
Bank 7          0

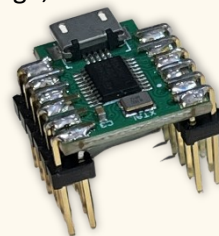
Press s key to save!
  
```

*PuTTY Serial Terminal Screen
showing 4 frequencies*

a very spartan screen, then send to the device to effect changes in the programming. So it's not in any way a simple Windows-style program that most folks are used to, but rather a very spartan serial string configurator that might take some skill and patience to learn for those who have never used "terminal mode" programs. This is due to the very limited computer resources within the chip. But the upside is once the configuration has been created and saved, it's a simple matter to then experiment with other frequencies and bank settings to program the device. The programming interface is via micro-USB, using a USB socket at one end of the board. In fact, the board has been designed so that the user can carefully cut out the junk to allow the board to be fitted inside, with a hole cut out in the top to allow for programming access! See photos.

The most amazing part of this product is the cost... it re-

ally boggles my mind that a traditional quartz crystal—just a tiny sliver of rock inside a little metal can—can cost upwards of \$35 or more yet the ProgRock2 with all of its sophistication and power is available for a mere \$18! And ironically enough, affixed to that tiny postage stamp size board is in fact.... a quartz crystal, cut for 8 MHz to provide computer synthesizer circuit that emulates all 24 available fre-



*ProgRock2 with all pins used
Photo by Steve KW4H*

Output from the ProgRock2 is 3.3v peak-to-peak which is more than adequate for most heterodyne applications. Think primarily along the lines of repairing the heterodyne board in a vintage Heathkit or Drake receiver. Or to add new band coverage to receivers (or heterodyne transmitter boards as well). One glowing application would be to covert a receiver like an SB-301 to cover the WARC bands, along with its matching SB-401 transmitter. However—I **must caution** the ProgRock2 is NOT intended to replace actual *transmitter crystals* such as FT-243 or any sort of crystal used in vintage Novice-era rigs!! While it could be used in a pseudo VFO circuit, performing as a VXO-meets VFO of sorts, that would require a complete system design and is not something the ProgRock2 can do on its own out of the box, so to speak. In other words, if you plug this into the crystal socket on a DX-60, you will likely fry it!

All in all, I think this is a tremendous boon to the folks out there wanting to restore or improve older ham receivers and transmitters, where it's just no longer possible to purchase crystals. And for those who care about such things, these devices are made in the EU not China!



*ProgRock2 showing USB connection to port. Shown actual size
Photo by Steve KW4H*



Where sick radios come back to health

More information can be found on the manufacturer's link. There is also a long write-up of the ProgRock2 device running right now on QRZ.com, where it is being used to repair an ailing Heathkit HX-1681 transmitter.

Special thanks to Steve, [KW4H](#), who first made me aware of this chip as he experiments with it on the HX-1681. Early results are spectacular, and the future looks bright. Look for a full write-up by Steve in an upcoming edition of [Electric Radio Magazine](#).

73 for now –Dave [W7UUU](#)

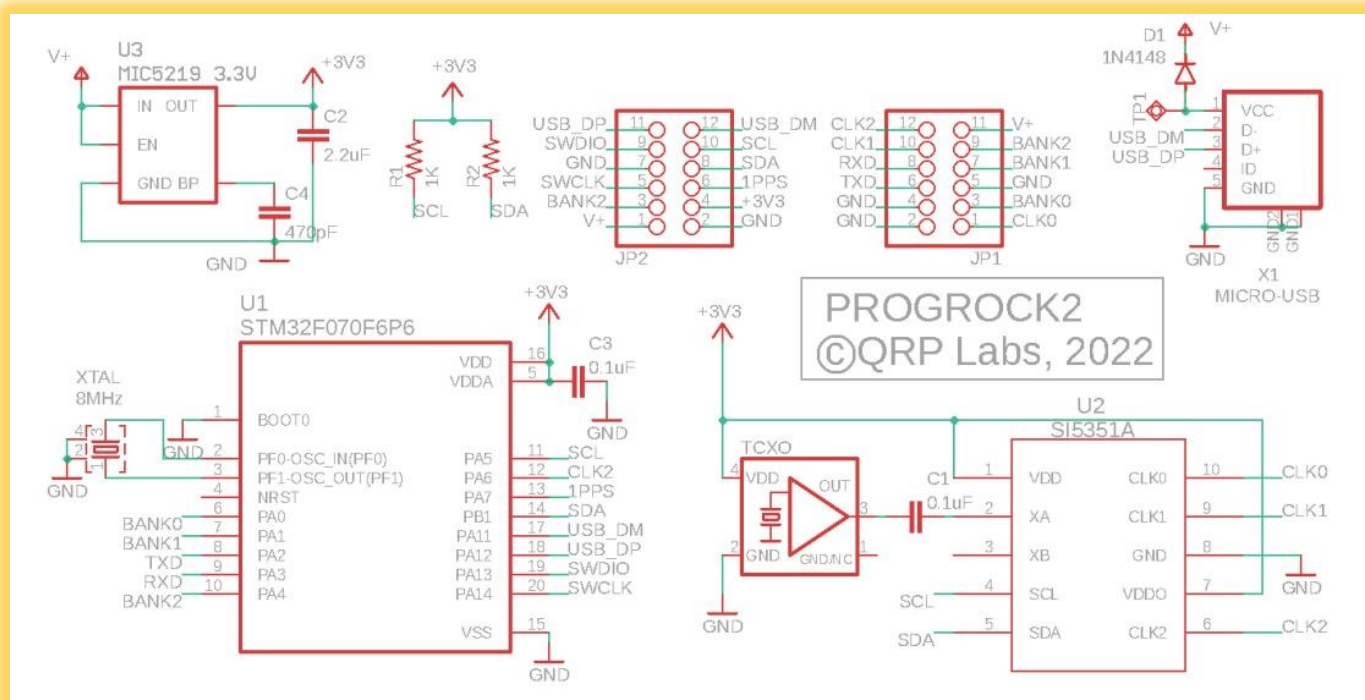


Full schematic of the ProgRock2 crystal emulator, showing the complexity of this device. How ironic that it in fact contains a standard quartz crystal cut for 8 MHz to provide clocking functions for the processor

Did you know?



Brothers & colleagues [Jacques](#) (left) and [Pierre Curie](#) discovered the [piezoelectric effect](#) in March of 1880. This is the electrical charge generated when certain solid materials, such as rock crystals and some ceramics, when those materials are stressed, either mechanically or when an electric current is passed through them. Thus the effect of setting frequency in modern crystals. Pierre ultimately married [Marie Skłodowska](#) to go on to discover radiation phenomena and Radium, winning the [Nobel prize as a husband-wife team](#) for the first time.



W7OS DOC SPIKE MUSEUM

Museum updates from the Curator

Dan
KD7SV



Due to the close proximity of the *January 2024* edition release and the *February* edition, as part of the “Big Reset” to get the Bark back on a first-of-the-month schedule, this column will not appear in the February issue.

Please be watching for the March 2024 edition at which time the Museum Report will resume. -editor

MIGHTY DK! QSO REPORT

Reporting all the HF QSO action from the club



W7DK

EACH MONTH in the Bark, the Radio Club of Tacoma recognizes the members and guests who have made non-contest QSOs using the HF stations at our clubhouse. [Saturday Open House](#), especially, is a time when members have access to this equipment. Why not sit down at one of our operating desks and make a contact or two? Assistance is almost always available for those unfamiliar with the equipment, and if your license class doesn't permit HF operation, ask the denizens of the HF Room or the Saturday clubhouse host to help you find a suitably-licensed control operator to sit with you.

It's a feather in the club's hat for the call sign of The Mighty DK to be heard on the airwaves. So get on the air and get your name in the Bark! (Don't forget to *enter your call sign* as the operator into our logging program.)



Above: Mike W7MKE operates the state-of-the-art Flex Radio 6500 SDR on the South side of HF Room

Below: Adam W2NCC running the newly-acquired Icom IC-7610 SDR transceiver on the North side of the HF Room in the Mighty DK Station ■ -editor

Clubhouse QSOs during this period:

NAME	CALL	QSOs
Mike	W7XH	42**
—	—	—
—	—	—
—	—	—
—	—	—

**Very short time since last report so not much activity



W7DK LOGGER'S CERTIFICATE

Classic “first award” for Members



HAVE YOU APPLIED for your own W7DK Logger's Certificate?! It's FREE and it's EASY! All you have to do is work at least 10 members of the Radio Club of Tacoma, then send in your list of call signs worked, and BAM! We'll print out your certificate and get it too you toot sweet by US Mail.

There are no confirmations required—no logs to submit—and really no rules other than the call signs you submit must be members of the club. You may work them on HF, 2m FM, on FT8 or



SSB or any other mode! In fact, one of the best ways to get your 10 contacts is to check into the weekly Tuesday Night Net on the 147.28 club repeater... every Tuesday at 7:30 PM.

This venerable award was first launched in 1957, using certificate paper printed by club member Dick Ryan, **W7RGD** (SK) who was a printer by trade.

As of the date of this publication, there have been 691 certificates issued, including a few reissues over the years to replace lost certificates.

The original certificates were hand-lettered by long-time RCT member Barbara Osborne, **W7UYL** (SK 2022), and all of the records were kept in a series of recipe boxes still held by the club.

We still have a huge stash of this beautiful OFFICIAL logger's Certificate paper.... So if you do not already have yours, just shoot us an email with your list of call signs worked, and put “Logger's Certificate” in the subject line...

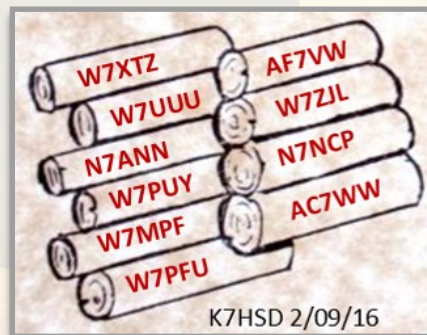
Send to loggersbark@gmail.com



We also issue “Log Piles” for endorse-

Barbara Osborne W7UYL ca. 1955 at an RCT USO event

ments of each group of ten additional stations worked! So don't hesitate—get your Logger's Certificate or Log pile Endorsement *today!*



Wanna get yours? Send in those contacts!

THE WAY BACK PHOTO BOOTH

Highlighted photos from the club's past

Researched & Compiled by the Editor



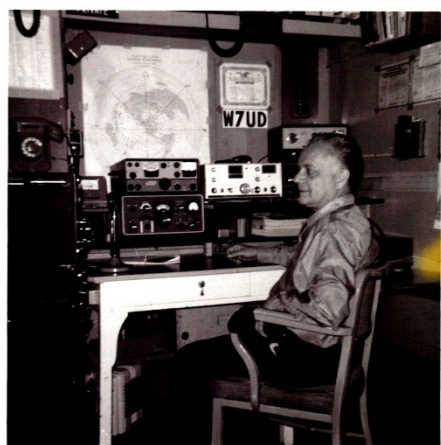
Photo:
Jim W7LS
Jim W7LS

Have an old photo to share?



CHUCK AUFANG W7BMG

Chuck Aufang W7BMG headed up the W7DK EmComm Team



Your Editor's Elmer Hank Perozzo W7UD in his official W7DK photo



Here's his later shack—the first ham shack I ever saw in person. I took this photo in March 1975

THE WAY BACK PHOTO BOOTH

Highlighted photos from the club's past

Researched & Compiled by the Editor



Photo:
Jim W7LS

WHO IS THIS MYSTERY MEMBER?



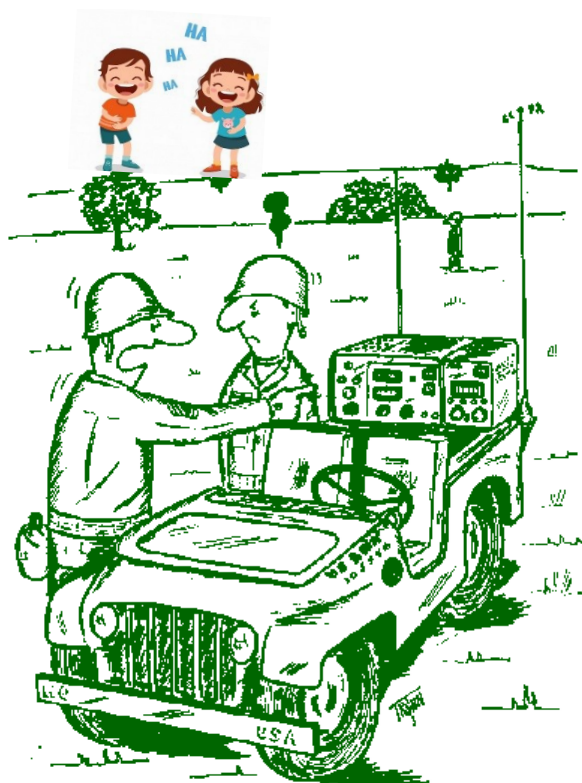
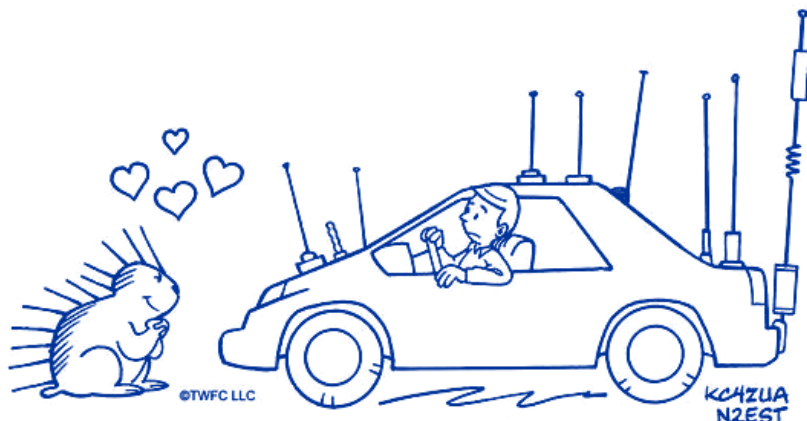
Wanna be featured?
Send in your photo!

If you think you know who our Mystery Member is, just send an email with your guess... first correct responder will win a

**FREE QRZ
Bumper Sticker!**

Mailed right to your door!





"I don't care if division doesn't send QSL cards, Kolderup....
GET ON THAT RADIO!"



"UR 59 59 59 59 59
I NEED UR CALL UR CALL"



Got a ham radio funny? Send it in!!

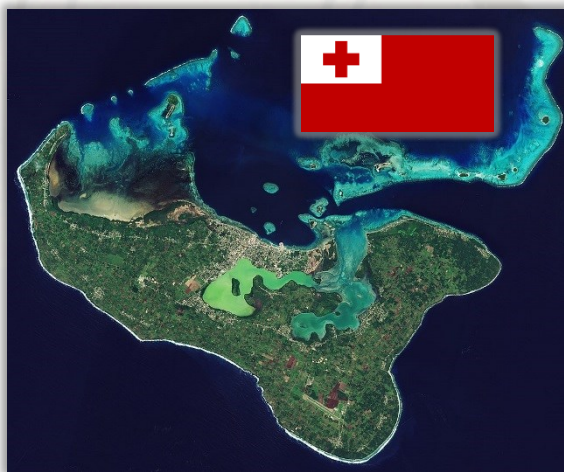
HOW'S DX?

DXpeditions and Notable DX operations



Editor

OFF WE GO Again to another awesome South Pacific island destination—this time it's the [Kingdom of Tonga](#), to the capitol city area of [Nuku'alofa](#). While not the massive DXpedition that last month's **TX5S** proved to be, it's still being run by seasoned DXpeditioners Al **K7AR** and Bob, **W7Yaq**. Dates of operation will run from **February 17 through the 27th**, with specifics of bands and modes yet to be confirmed. Call sign will be **A31DL**



Much like **TX5S** ([Clipperton Island](#)), **A31DL** should be a fairly easy contact for most of North America, with the EU again being the "tough side of the planet" to be able to easily reach this region. The Kingdom of Tonga actually consists of some 173 islands, and is located in the Western region of the Pacific Ocean in the region of Polynesia, some 5700 miles SW of Mexico, with the capital and operating location [Nuku'alofa](#) being the southernmost island in the country. Updates should appear soon on the [A31DL QRZ page](#). -editor

WHILE THE SOUTH Pacific may be a tough reach for those on the European Continent, for those of us here in the Pacific Northwest, Africa is one vast unreachable space, outside of the most populous coastal regions. With the exception of South Africa (ZS), which ranks at a lowly #286 on the ClubLog list of most-wanted entities, most of the continent of Africa by comparison is sparsely populated in general, never mind in numbers of active hams.

By virtue of this, much of the interior of Africa is attainable only via DXpedition. So every time one comes up, those of us who enjoy DXing should jump at the chance to get in their log! And fortunately for us, there is indeed a [DXpedition coming soon to Abuja](#), Nigeria with members of the ever-popular Rebel DX Group (most recently of **T31TT** Central Kiribati fame). Not much is known yet but keep an eye out for **5N5N**, which could become active as soon as February 2024. [Abuja](#) is the capital and eighth most populous city in Nigeria, situated in the middle of the country. Hopefully their QRZ page will be active soon with updates —editor



HOW'S DX?

DXpeditions and Notable DX operations



Editor

OUR OWN BJ Rollison, **WA7WJR**, an avid sailor, is off on another of his amazing 1-man DXpeditions! His ship, dubbed Discovery, is a 45' Catalina Morgan sloop, takes him to many exotic locales mostly in the Pacific Ocean, often as far as Southeast Asia.

This month, BJ will be on the air from the Republic of the Philippines operating as **DU3/WA7WJR** on Luzón Island, OC-042.

OPERATING NOTES:

BANDS: 15, 12, 17, & 10 possibly 20m
NO operation on 40, 80, or 160

MODES: **CW** UP-1, **SSB** UP-5, **FT-8 F/H** on 21.091, 24.921, 28.091 & 14.091, **FT4** on standard frequencies, **RTTY** 18.106, 21.080, 24.925, 28.080, **PSK31** 18.103, 21.070, 24.920, 28.070, 28.120

Note that BJ will be running "Holiday DXpedition Mode" meaning don't expect him to be on the air 24/7.

Click photo to the right to go to DX Info to read more about this event. Click on his ship photo above to read about the S/V Discovery vessel itself —*editor*



BJ's ship — S/V Discovery



HOW WAS DX?

Past DXpeditions and Notable DX operations



Editor

CLIPPERTON 2024 is now in the history books as the team travels by sea back to the States to fly home. It's been 11 years since the last activation of this storied location, putting the island high atop the lists of "Most Wanted" DX entities in the world: #37 globally, and even higher, #26, for stations in Europe due to the vast global reach required to establish a contact. Scheduled to be in operation from January 18 through February 1st, 2024, bad weather with heavy rains and strong winds forced an early end. Says seasoned DXpedition team operator Gene, **K5GS**, on their final day, as the ship was being loaded, "The weather right now is a monsoon-like downpour on the island" The night before, he reported, "The wind was howling last night (January 26th) but the boat crew did come across this morning to refresh our food supply". One can only imagine the challenge and difficulty of operating in tents under such conditions, on



this tiny uninhabited island! One of the broadest DXpeditions of recent years, TX5S offered band coverage on ALL HF bands from 160 to 6 meters, as well as 70cm and 23cm EME (Moonbounce)! All modes were in use: CW, SSB, FT8, RTTY, and even PKT (70cm) and PSK (20, 40, & 60 meters). In all, just shy of 120,000 contacts were logged in the time they had on the island, making one of the most prolific events in recent years as well. Your editor was able to score them all bands from 80 to 10m on CW, with the exception of 40 meters which was via FT8. Great signals received here, and as reported around the web. And terrific operators in every way! Hope you got 'em in the log! -editor





[Report from BJ WA7WJR from last Fall—photos & Text by BJ Rollison]

LATE SEPTEMBER IS really a beautiful time here in the Pacific Northwest. Days tend to be in the 70's, mostly sunny, and the leaves on the tree are just starting to turn to welcome the autumn season to western Washington. So, to celebrate my 23rd anniversary the wife and I drove over to Port Townsend for a few days. And because my wife understands my passion for ham radio and has infinite patience, she agreed to let me play radio at nearby [Fort Worden State Park](#).



So, on our second day we drove out to the park and found a nice shady spot at Point Wilson near the lighthouse where I setup my Buddipole, a table, 2 chairs, and my POTA kit. I almost always work 20M and this outing would be no different. I started with FT8 and made 16 QSOs, then switched to phone and made 5 QSOs, tried CW for about 5 minutes with no takers, then back to FT8 for 2

more contacts. The band conditions weren't the best on this day, and I didn't want to press my luck, so after an hour I called it a day and packed things up so we could spend some time exploring the park.



WA7WJR working a phone contact near Fort Worden's Point Wilson Lighthouse (K-3194)

After an hour playing radio, it was time to explore the park to enjoy the beautiful day, the natural surroundings, and...



Caution signs are synonymous with FUN!!!

Got a POTA story with pics? Send it in!



Fort Worden is a HUGE park. Lots of open space, lots of trails, lots of sandy beaches (don't go swimming...the water is damn cold), lots of historic buildings (some of which you can rent), campgrounds, a lighthouse at Point

Wilson, and of course the old gun batteries that protected the US from crazed hoards of marauding Canadians!

There aren't a lot of picnic tables (other than at the campgrounds), but there are plenty of places to set up a portable rig and start POTA'ing. Also, if you stay at the campground or in one of the available residences for rent, you can operate throughout the night. This being an old Army base the park is massive. I was quite impressed with the beauty of looking out over the Strait of Juan De Fuca and Admiralty Inlet of Puget Sound, the historic significance of the park and its well-preserved buildings, and the natural beauty. And exploring the battery magazines was fun!



"Honey we have a PROBLEM!!"



Oh...if you're planning on exploring the battery magazines you should take a headlamp or a flashlight. There are some interesting passageways in the main battery to explore! -BJ Rollison WA7WJR

Got a POTA story with pics? Send it in!



YOUTH ON THE AIR CAMP 2024—Application Period is now open

The application period for the fourth camp for young amateur radio operators in North, Central, and South America is now open at YouthOnTheAir.org.

UNION, Kentucky—Applications are now being accepted for campers interested in attending Youth on the Air Camp. Licensed amateur radio operators ages 15 through 25 who want to attend are encouraged to apply online at YouthOnTheAir.org.

The camp is scheduled to take place July 7 through July 12, 2024, at the Mount Saint Vincent University campus in Halifax, Nova Scotia, Canada.

For the best chance at being selected, applications should be submitted by 2359Z on January 15, 2024. Campers will be selected by the working group and notified by February 1 [*but may still be submitted after this date –ed*]. To encourage attendance from across the Americas, allocations for campers are being held open for various areas of North, Central, and South America. If countries do not use their allocation or should someone within an allocation decline acceptance, those positions will be filled from the remaining pool of applicants. As this will be an ongoing process, everyone will not receive notification of acceptance at the same time. Preference will be given to first time attendees. Applications will continue to be accepted through May 31. The application process is FREE. A \$100 USD deposit is required upon acceptance. Should a potential

camper be unable to pay the \$100 deposit, he or she may apply for a scholarship or waiver. Campers are also responsible for their own arrival and departure transportation to the camp location. Travel assistance may also be available, especially for those traveling from outside of the USA and Canada. Travel during camp events is provided. Up to 50 campers will be accepted. Priority will be given to first-time attendees and youth residing outside of the USA. Returning attendees will serve as leaders during the camp. Potential campers that reside outside of Canada are encouraged to begin the process of obtaining the necessary passport (and appointment to obtain a tourist VISA, where applicable) NOW, as processing times may extend into several months. Radio Amateurs of Canada is the local host for the 2024 YOTA camp. For details about the camp, visit the camp web page at YouthOnTheAir.org. For additional information, please contact Camp Director Neil Rapp, **WB9VPG** at director@youthontheair.org. Potential future dates and locations for region-wide camps include:

- July, 2025 Western USA
- June, 2026 Midwestern USA
- July, 2027 Southeastern USA

Got a Youth radio story? Send it in!

EMERGENCY COMMUNICATIONS

Amateur Radio EmComm News & Topics



The following is reprinted monthly with permission of Jim [AF5NP](#) from his blog www.NEWHAMS.info

EmComm Toolbox

Many new hams get involved in emergency communications (EmComm) and it may even be their primary focus or purpose for getting an amateur radio license. Emergency communications is the first of five basic principles spelled out by the FCC for the existence of the licensed amateur radio service in Part 97:

Section 97.1(a): Recognition and enhancement of the value of the amateur service to the public as a voluntary non-commercial communication service, particularly with respect to providing emergency communications.

In fact, by accepting an FCC operator/primary station license grant under these rules, USA amateurs are obliged to provide emergency communications as needed. Not that you'll get thrown in the slammer if you don't help, but all licensed hams with the equipment and experience should help out in case of disaster or other EmComm situation, and most do so.

Having said all that, I would encourage all hams to join a local or regional EmComm group (such as ARES or RACES in the USA) and

train and drill with them to get some experience. It's not enough to know how to talk on a repeater or social net; things get more serious in an EmComm situation.

ROARS club EmComm group Ramona, CA



There are more formal radio operating practices and language used in EmComm which is almost always conducted as a directed net. You need

to learn when and how to communicate and with whom and what to say and why things are done a certain way. Participating in EmComm drills and public service events is important training, as is listening in on EmComm training nets. Taking EmComm courses such as the ARRL's [Introduction to Emergency Communication Course EC-001](#) is also of great benefit.

To familiarize you with the Who/What/When/Where/Why/How of EmComm, attached here is a presentation entitled, "[EmComm Toolbox / Practices, Guidelines, Procedures and Etiquette](#)." Some might call it Radiocraft Language.

(Continued on page 45)



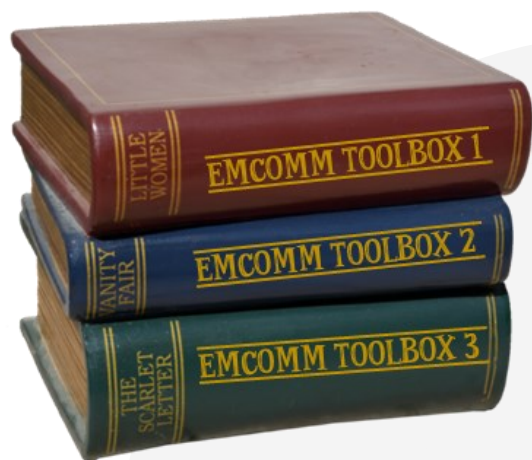
Got an EmComm story to tell? Send it in!

EMERGENCY COMMUNICATIONS

Amateur Radio EmComm News & Topics



Click books to
download EmComm Toolbox



This document covers seven key topics (tools) in our EmComm toolbox:

- ITU Phonetic Alphabet
- ITU Phonetic Numbers
- Break Tags
- Using Tactical Call Signs
- Prowords
- Operating Procedures
- Etiquette

73, Jim AF7NP



DANG !



The Gonset Communicator series of VHF tube-based transceivers were the first commercially available radios for what we would today call EmComm or emergency communications. Made by the Faust Gonsett (yes, his name has two t's while the radio only has one), they were first sold in 1952 but by the time the Cold War was fully raging and CD or Civil Defense was on the tips of everyone's tongues in the late 1950s, the line culminated with the iconic Communicator III Civil Defense "**CD Yellow**" incarnation.... One of the most sought-after by collectors today. The transmitters were crystal controlled but crystals were cheap and plentiful then. The receivers tuned the entire 6 or 2m band.

Got an EmComm story to tell? Send it in!

STRAY TOPICS OF INTEREST

Fun stuff for Hams to read!



W7UUU

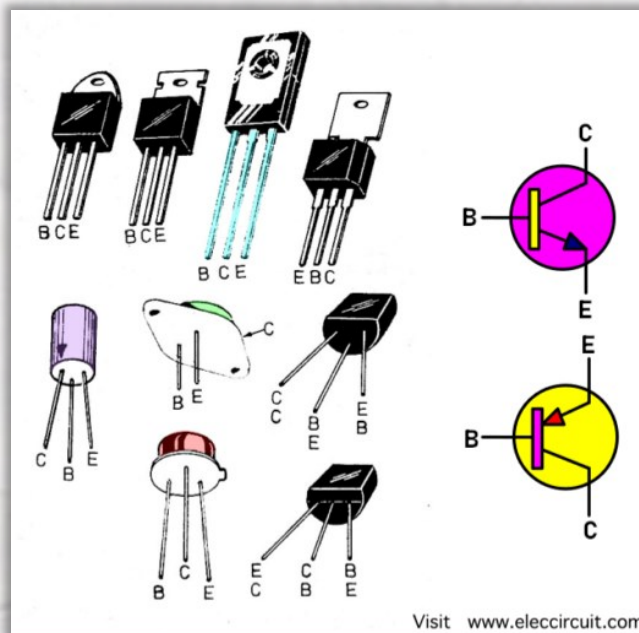


Heathkit SB-104 Station
Introduced 1974, updated to the
much-improved A version in 1977
Discontinued in 1982
\$699.95 (Transceiver only)

And of course, all hams put the keyer on top
of one of the boxes, right?!



Your Editor's SB-104A station as it is today in
his shack "classic radios" shelf, in regular use.
Very basic by today's standards, but
delightful to use in every way



Visit www.eleccircuit.com

Do you know your basic
transistor pin configurations?
Click the picture to learn more!



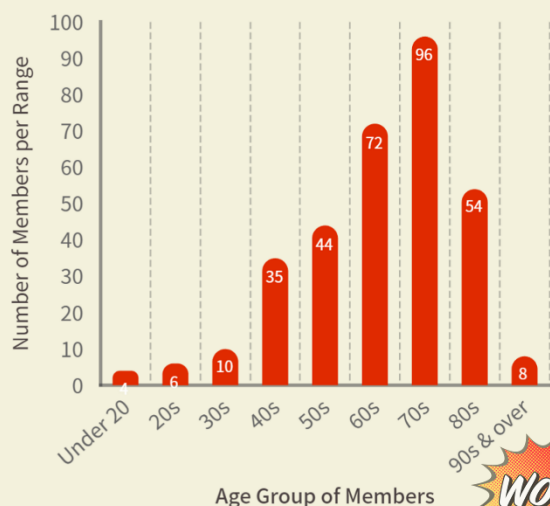
STRAY TOPICS OF INTEREST

Fun stuff for Hams to read!

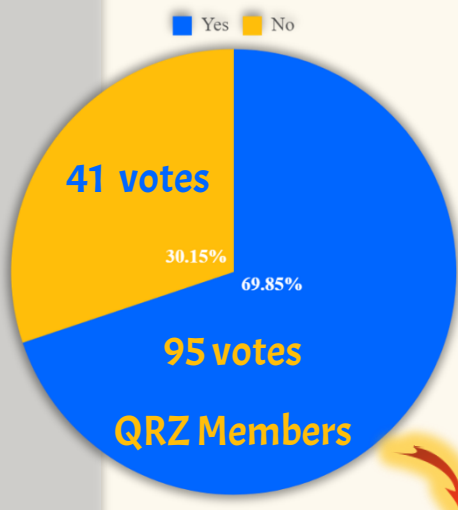


W7UUU

Did you know?



RCT Member Age Distribution



“At this moment are you a member of ARRL?”

Sampling poll of readers of **QRZ.com** to get a pulse on how many hams in the community are, at the time of this poll, members of ARRL (12-5 > 12-12, 2023)

Mineral Winterfest

Bob **K7MXE** spent time on Friday morning, January 26th to visit the little-advertised “word of mouth” hamfest that takes place twice a year in the tiny town of [Mineral, Washington](#) (in the shadow of Mt. Rainier). When asked about their web presence, or lack thereof, Bob commented, “just word of mouth on 3870 and 3885 KCs. Just a bunch of hams getting together to unload junk”. The next time the group meets will be in the summer, when of course it’s called Summerfest. For now, here’s some of Bob’s finds that he couldn’t bear to bring home.

■ -editor

Photos by Bob K7MXE



STRAY TOPICS OF INTEREST

Fun stuff for Hams to read!



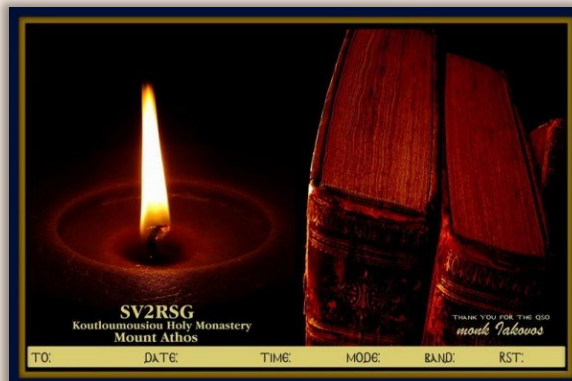
W7UUU

Hidden Word Contest!

Somewhere in this edition of the Logger's Bark is a hidden word. If you are the first to find that word and report it to your Editor, you will win a free QRZ Sticker mailed to you! **This month's word is a BRAND OF CAR** It will be hiding in a sentence—just tell your editor via email what the word is and the page and you will win if you are the first!



QSL Card of the Month!



Another of the "rarest of the air" ... Mount Athos in Greece. It is its own DX entity and super rare. Monk Apollo ran the station for many years until his passing a few years ago. Monk Lakovos [SV2RSG/A](#) now operates the station but only very rarely. This is a true "holy grail" card

Do YOU have an interesting QSL? Send it in!

ANOTHER COLLINS FIRST



KWM-1

With These Firsts in Amateur Mobile Equipment:
 FIRST TRANSCEIVER • FIRST SSB • FIRST VOX AND SPEAKER ANTI-TRIP CIRCUITS • FIRST ALL-TRANSISTOR POWER SUPPLY • FIRST AUTOMATIC LOAD CONTROL • FIRST PRECISION TUNED VARIABLE FREQUENCY OSCILLATOR • FIRST TO USE MECHANICAL FILTER • FIRST CRYSTAL-CONTROLLED BFO AND RECEIVER HF OSCILLATOR.

These are important firsts in Amateur mobile communication, and all designed into one compact unit — the 175 watt* 14-30 mc KWM-1. This compactness and the low cost of the KWM-1 are a result of using common components for both transmit and receive, which also results in exact coincidence of signals in frequency-determining elements. Other

separate transmit and receive frequencies for working out-of-band DX. Only 6 1/4" H, 14" W, 10" D. Weighs 15 pounds.

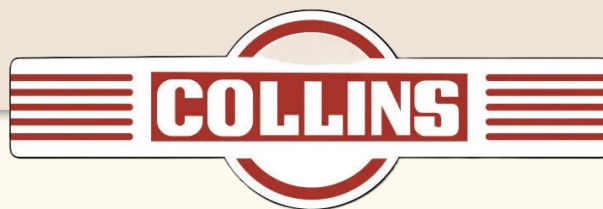
Your Collins distributor has full details on the KWM-1, which will be available from production in August. Contact him today.

KWM-1 Transceiver \$770.00

Did you know?

The Collins KWM-1 was the first non-crystal-controlled transceiver for radio amateurs. It was introduced in 1957 with a selling price of more than \$8,000 in today's dollars and required an external VFO just to work split!

It truly makes the IC-7300 look a real bargain!



W7DK LIVING HISTORIES

Member video interviews and profiles



BACK IN 2015, when I was helping to organize the W7DK Centennial Banquet and Celebration, I asked about possibly recording video interviews of club members for future generations to learn more about those that came before them. However, that plan like so many things in life, sort of slipped by the wayside and I truly regret not revisiting such a project much sooner.

The fairly recent loss of our most senior member, Worth Gurley, W7WG, a true friend to all who knew him and to strangers alike, reminded me of the extreme importance of capturing aspects of our members lives and involvements not in only ham radio, but also with the Radio Club of Tacoma. So I've finally got that "round TUIT" that I should have found sooner and have embarked on recording what I am calling the W7DK Living Histories Project. For this effort I video a short (15-20 minute) interview with our members in a free-form format to allow them to share some insights into how they came to amateur radio, and how they became involved with the Radio Club of Tacoma.

So far I have produced a small number of these vid-

eos but it's an ongoing process, and I hope to continue until all members who wish to participate have had a chance to do so.

One of the challenges of any such project is where to store the data that is the encoding result of all the video that is produced and edited. If stored on a local computer such as at home it is subject to the

failures we all know can happen: fire, electronic failure, physical loss (where did I put that hard drive?) or other calamities. Storing at the clubhouse doesn't fare any better in the long run.

So the videos are being uploaded to YouTube, where they have a strong

chance of remaining there for a great many years to come. Several are already uploaded, with several more in editing and more on top of that slated to shoot.

I hope to record such histories of ALL members who wish to tell their stories—please contact me if you would like to participate.

Please enjoy this series of videos, with a new link every month. Click the image to watch video ■

W7DK LIVING HISTORIES PROJECT #2



Click picture to watch the video

TNT THE NEW HOT THING

Hot and new products to think about



W7UUU

THIS MONTH'S

New Hot Thing is once again another portable transceiver... seems to be one of the paths to take these days to

draw in the buyers: complete portable stations in a small package packed with massive features. The new Lab599 ultra-compact Discovery TX-500 is just that... per the manufacturer, "[a] radio designed specifically for adventure, extremes, for using in places unattainable before, with no sacrifice in performance or features". And it surely appears to offer all of that up and more.

Like most new radios these days, the TX-500 is an SDR design, offering general coverage receive capabilities from 0.5 to 56 MHz, with high-performance digital filtering, a 48 KHz built-in panadapter ("waterfall"), and on the transmitter side, offering from 1 to 10 watts of output power on all ham

bands from 160 through 6 meters. Add on a CW as well as a voice message memory, CW and voice beacon mode,

built-in SWR monitor, and a bunch of other cool features—there's more going on in this radio than virtually anything else in this form factor such as the IC-705 or the older-designs of the Elecraft KX2 and KX3.

And the photo at the bottom... that's real! This transceiver is only 30mm tall—that's 1.18 inches! The one single highly important feature to many users that this Hot New Thing lacks however is... you guessed it: an internal antenna tuner. Play the sad trombone sound now.... That's going to be a turn-off to a great many buyers. I think they were really going for the super-sleek of the package, and there's just no way to squeeze an autotuner into such a compact box. So that will indeed leave users



Weight:
0.55 Kg
19.4 oz

1.18"

[Click to Visit Manufacturer's Site!](#)

TNT THE NEW HOT THING

Hot and new products to think about



W7UUU

faced with having to pair it up with a non-matching external tuner such as the venerable Elecraft T1 or one of the battery-powered offerings from LDG. Of course, if you're like me when I do POTA adventures, I only use resonant antennas (usually a 20m vertical) so for some of us, the extra weight and power consumption of a tuner would be a downside.

Build quality seems impressive from everything I have seen so far. Beautifully machined and seemingly more robust than the IC-705 and certainly beyond the typical "pocket size" QRP rigs like the Mountain Topper and similar rigs in small plastic boxes. Of interest to some will be the fact it is not built in China, but rather in United Arab Emirates.

One other little oddity I notice is there is no built-in speaker—although that's hardly necessary, as most operators of rigs like this will tend to want headphones anyway. The microphone is a speaker-mic affair but as anyone who has ever used one will attest, not very practical in day-to-day use.

Also odd that at least for now, there is no internal rechargeable battery! But from other reviews I have read, there is a matching battery pack soon to be available. So in this regard, it does fall below the IC-705 or Elecraft KX2 and other small field rigs with such capacity built in.

A strong feature also mentioned both with the manufacturer as well as in web reviews is the fact it is significantly weather resistant, largely by virtue of

its near-military grade construction: super tightly fitting panels and controls, with few water ingress options. But in reality, how many operators really plop their radio on a table in a deluge to enjoy some time playing POTA? It's not something that I think will sway many buyers in any real terms.

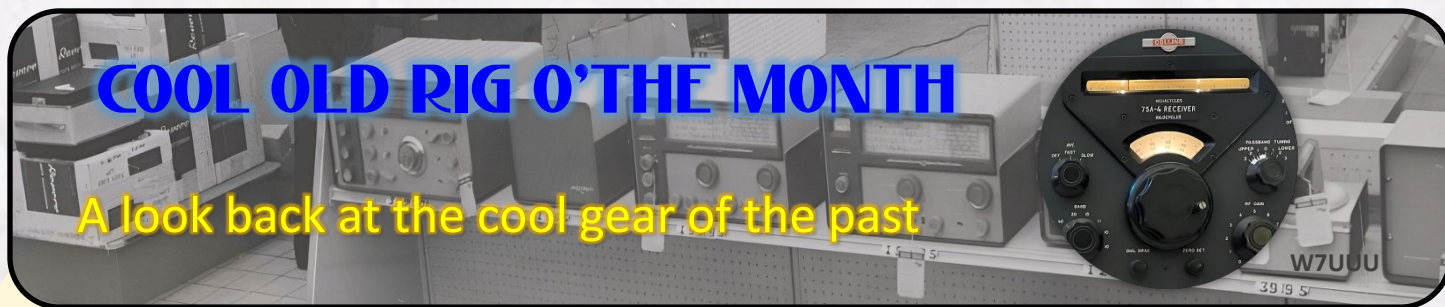
So here's the "quick specs" in summary:

- 160-6-meter amateur radio bands
- General 'receive' coverage 0.5 - 56.0 MHz
- All modes: SSB, CW, DIG, AM, FM
- High-performance 32-bit floating-point DSP
- Current drain as low as 100 mA in 'receive' mode (backlight on, preamp off, no signal)
- External power supply DC 9-15V, 1 to 3A typical in transmit
- High-contrast LCD with 256×128px
- High-performance real-time panadapter
- One-click online firmware upgrades
- Adjustable output, 1 to 10W PEP
- Rugged, SWR and temperature-protected final amplifier stage
- Carrier Suppression > 50dB typ.
- Harmonic / Spurious Outputs > 50dB below carrier
- CW Sidetone/Transmit offset 400-1200Hz, adjustable
- Speaker-microphone with PTT
- 3-band microphone audio equalizer
- 2 adjustable digital filters
- DSP RF speech processing for excellent 'punch'

Currently in stock and shipping from HRO and other resellers at around **\$1,149.95**

■ *-editor*

[Click to Visit Manufacturer's Site!](#)



The Heathkit AT-1 HF transmitter is arguably one of the worst ham radio products that the Heath Company ever sold. But at the same time, it was one of the most important products ever sold by Heath as far as radio amateurs are concerned. Why? It's because the AT-1, introduced in the spring 1953 flyer and advertised in QST beginning July of that year, was Heath's first serious venture into amateur radio products. The FCC had only recently created the new Novice class license, and this transmitter was a huge success for that market. It could be argued that had Heath not come out with the AT-1, the likelihood of Heath becoming the behemoth in amateur radio that it did would be highly unlikely. Howard E. Anthony, the man who purchased the Heath company in the mid-1930s following the death of Edward Bayard Heath in 1931 in a plane crash of a plane of his own design, had the vision of designing and selling products to the ham radio market. Initially all Anthony created were lab-grade test gear devices for the "everyman home tinkerer". But the creation of the new Novice Class ticket fueled the fire for an inexpensive transmitter kit for the throngs of new hams taking their Morse tests. With a selling price of \$29.50, \$337 or so in today's money, it fit a market price that new hams were eager to pay and sold like hotcakes! So why is it so bad? Lots of reasons. The most notable is its poor design resulted in pretty miserable efficiency. The transmitter covered all the

major ham bands at the time: 80, 40, 20, 15, 11 (then a ham band) and 10. One of the big conveniences over other similar transmitters was single-knob band switching. No need for changing coils. Although rated at a power input (not output, as modern radios are rated) of about 25 watts, the inefficiencies of the design only offered about 33% of that as output, or around 5 or 6 watts provided the antenna was a good match. Which

would not be likely unless you also purchased the

matching AC-1 coupler.

The link-coupled output impedance would not natively match the impedance of most antennas of the day so some sort of external matching device was almost mandatory. Why was it so inefficient? The design is flawed in that the transmitter only operates as a standard MOPA (Master Oscillator Power

Amplifier) on the 80 meter band. All the other bands called upon the amplifier stage (6L6) to act as not only the power stage but also as a frequency doubler and even a tripler, depending on crystal choice. This results in the extreme inefficiency on bands other than 80 meters. Additionally, the transmitter offered a very promising connection on the rear apron: provision to add an external AM modulator so the new Novice could get on AM Phone once his General Class license was obtained. However, Heath never actually offered the modulator! They only ever produced a

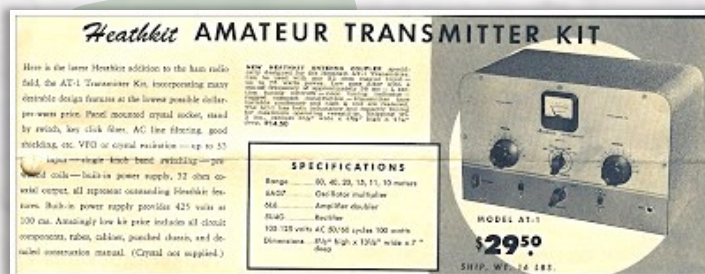
Photo courtesy Bob Ripley, Museum of Radio & Technology



*Heathkit AT-1
Transmitter*



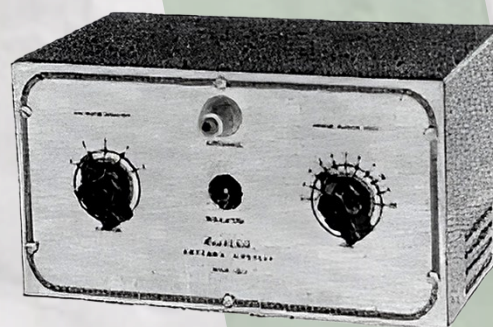
schematic for one the user could build himself. But they did provide another connection for an external VFO, so at least the new upgrades to General could purchase a VF-1 VFO the following year and move away from crystal control. So despite its flaws, the AT-1 can truly be considered to be the one product that launched the Heath company solidly into the growing amateur radio market. To this day they are sought after by collectors, and many are still heard on the air during Classic Exchange as well as on Straight Key Night. Ironically, just over one year after the release of the AT-1, in July 1954, Howard Anthony too died in a plane crash just as Ed Heath had in 1931. Had he not come out with the AT-1 prior to his death, Heath Company likely would never have entered the ham radio kit market at all. ■ -editor



Original print ad for the AT-1 from Spring 1953



Matching VF-1 VFO introduced in 1954



AC-1 Antenna Matcher introduced in 1953



Howard Anthony's grave in Dowagiac, MI as photographed in July '23. I placed the engraved "Mr. Heathkit" plaque in spring of 2017 while visiting all the original Heathkit locations —editor

MICROCONTROLLER WORLD

Arduino, Raspberry Pi, Basic Stamp, & More



WHAT IS A RASPBERRY PI?

Most hams and electronic hobbyists these days have heard of the [Raspberry Pi](#). But there are still folks out there who have not, probably a few right here in the W7DK club membership. So this column is just a brief introduction and overview of this amazing little computer product and what sorts of things it can do. Over time I hope to present ham radio related projects as well as general computing uses for the Pi. But for now, an overview is in order.

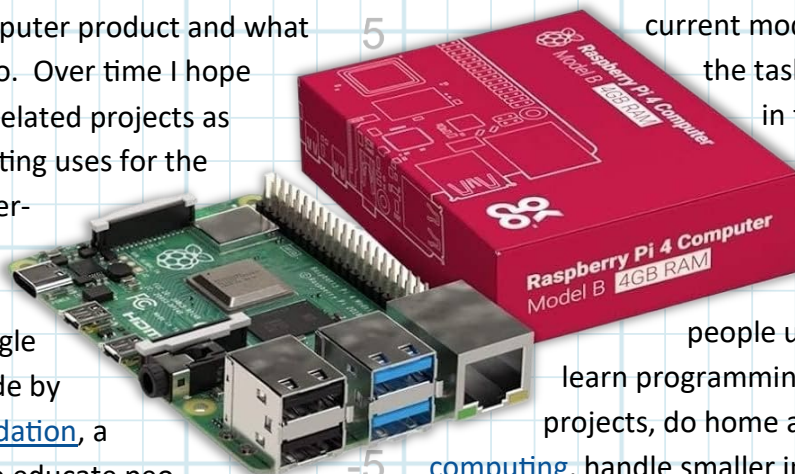
Raspberry Pi is the name of a series of single-board computers made by the [Raspberry Pi Foundation](#), a UK charity that aims to educate people in computing and create easier access to computing education. While countries like the US and Canada and nations of the EU tend to think of computers, in general, being pretty affordable these days. But in many developing nations that is definitely not the case.

The Raspberry Pi launched as a viable low-cost computing option in 2012, and there have been several iterations and variations released since then. The original Pi had a single-core 700MHz CPU and just 256MB RAM, while the latest model has a quad-core CPU clocking in at over 1.5GHz, and 4GB RAM. The price point for Raspberry Pi has always been under \$100 (usually around \$35 USD), most notably the Pi Zero, which costs just \$5. You've

read that right—FIVE BUCKS for the smallest of these devices. However, for most applications to do “computer stuff as you know it” you’d need to be looking more at the Pi 4 and Pi 5, which in fact can become full-blown desktop computing solutions to do every day tasks such as browsing the internet, working with emails and PDFs, and operation with spreadsheets and word processing. The current models of Pi are fully up to the task of home computing in the ways the majority of folks think of today.

All over the world, people use the Raspberry Pi to learn programming skills, build hardware projects, do home automation, do [Edge computing](#), handle smaller industrial control projects, and of course, amateur radio applications—which we will focus on whenever possible in this column.

The Raspberry Pi is indeed a very cheap computer that usually runs one of many versions of the Linux operating system, but it also provides a set of GPIO (general purpose input/output) pins, allowing you to control electronic components for physical computing as it is called—bringing things like contact closures, varying voltages, resistances or other inputs into the device and similarly sending such signals out to the real world. This is one area where a device like a microcontroller such as the Raspberry Pi greatly differs from a typical laptop or desktop



MICROCONTROLLER WORLD

Arduino, Raspberry Pi, Basic Stamp, & More

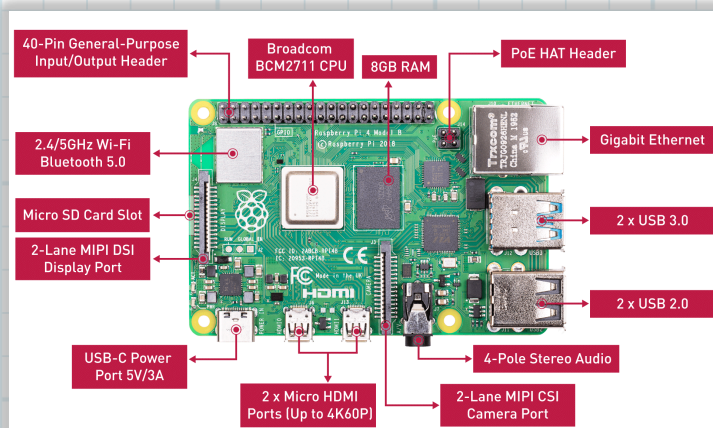


computer—the ability to gain access to control pins for input and output. While a typical computer can be made to do similar things using USB interfaces, the Raspberry Pi was designed from the ground up for this. But that's just the geeky stuff.

Looking at the board layout, it's pretty amazing just how much power and function has been packed into such a small sub-\$100 device. The board actually supports DUAL outputs for HDMI (dual monitors—yes!), as well as two USB 3.0 ports, two USB 2.0 ports, stereo audio, onboard gigabit Ethernet as well as dual-band Wi-Fi and even Bluetooth! The Pi 4 is still quite cutting edge, despite there now being an improved Pi 5 out now... and most users will be surprised just how able and agile this little device can be.

The operating system is usually Linux based—and the Pi supports many variants. Most new users will likely start with the free download of the native [Raspberry Pi OS](#) (formerly called Raspbian). But other users may opt for the windows-like [Ubuntu](#). There are many flavors of Linux that appeal to different applications—but folks who work at that level of operation will already know which one they want to use. There is even a [Chromium OS](#) version (another open-source operating system) as well as the embedded [Windows 10 IoT](#) variation, -“Internet of Things”. In a future column on this topic, I will present some common applications and screen captures of using a Raspberry Pi in day-to-day operation.

Ham applications for the Pi are all over the internet



as well, and we will delve into a few of these fun projects as we go along. In fact, many POTA and SOTA fans have migrated to using the Raspberry Pi for the control computer on radio outings owing to its small and light design, and the fact that the all-important [WSJT-X](#) and some logging software are fully adapted to run on the versions of Linux that the Raspberry Pi supports.

Until next time, 73. -editor



Full-blown Raspberry Pi portable station beautifully implemented by [Karl-Heinz Krawczyk, DL1GKK](#)

Click the photo to visit his site for complete construction details!

Got a microcontroller project to share? Send it in!

HOMEBREW & KITS CORNER

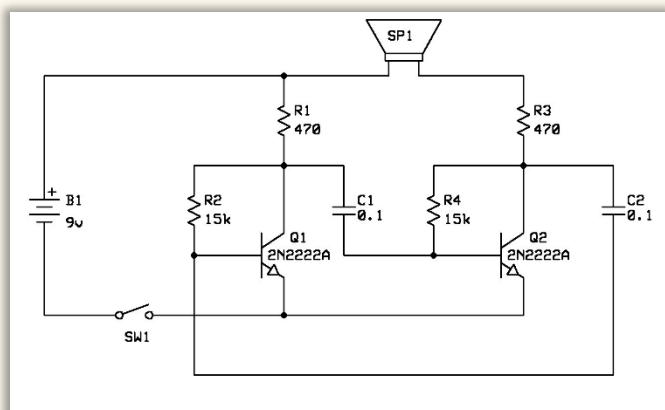
Radio homebrew projects both large & small



Despite the fact the FCC dropped

any code requirements for ham licenses lots of years ago, there are in fact many newer (and older!) hams wanting to learn the art of Morse code sent via CW (continuous wave). Before you can learn to copy Morse, you really should learn to send it first, so that you are aware of how the characters go together. And for this to work, you need two things: a key and a CPO, or Code Practice Oscillator.

In this installment of Homebrew Corner, we'll show



you a very simple circuit for a code practice oscillator you can build yourself if you so choose. And

it's also available as a kit you can simply order for about twenty bux.

It's by the [Four State QRP Group](#) (no affiliation) and is about the simplest CPO circuit you're going to find ... and it works great!! Check out the simple schematic—just a couple of transistors. *Peugeot.*

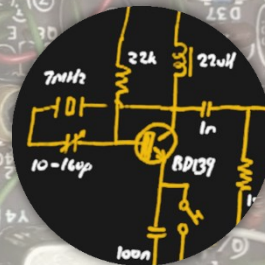
The 4sQRP board is very simple to assemble, even for supervised kids, and part of the kit builds up a usable straight key using PCB material... cool!

But even if you choose not to purchase the kit, the schematic is published for use by true homebrewers. None of the parts are remotely exotic. The 2N2222 transistors are super common and super cheap. The type of transistor is not critical as long as it's an NPN "BJT" (Bipolar Junction Transistor) type. Another totally suitable substitution would be the 2N3904. The remaining resistors and capacitors can be purchased many places: [Mouser](#), [DigiKey](#), and even [Amazon](#). The speaker can be any small 8-Ohm speaker like might be found in a junked "transistor radio" from the junk box. But like so many things these days, the 4sQRP board and kit at only \$19.15 is pretty hard to beat and comes with all the parts you need to build. Plus you get to know the CPO is kitted up by the Mount Vernon, Iowa Boy Scout Troup 40 Amateur Radio Club. Here is a link to the complete assembly manual if you want to see what you'd need to do to put one together: [SSCPO Assembly Manual](#) ■

Do YOU have a homebrew to share?

HOMEBREW & KITS CORNER

Radio homebrew projects both large & small



ONE OF THE BEST technical minds on the QRZ forums has long been Jim Miccolis **N2EY** who lives in Wayne, Pennsylvania. His specialty for many years has been “hollow state” gear, otherwise known as tube gear or more affectionately, tube gear.

I wanted to profile his station in this month's Homebrew “Project Profile” column because he's the only ham that I know who runs a station that is essentially 100% homebrew, and 100% tube-type gear.

And no, it's not his “secondary position” for Olde Tyme special events with an Elecraft K4 for his main rig. No, his **ONLY** HF rig is this homebrew one, which he calls the Southgate Type 7. It's a 100-watt all-tube CW transceiver covering his main bands of interest: 80, 40, and 20 meters. The rig is a true transceiver,

in that there is a single VFO which, with other circuits, is shared between the two functions of transmit and receive, which *defines* a transceiver.

Jim's philosophy is that homebrew gear gives a ham the greatest flexibility to build what is needed, and nothing else. Projects can have circuits and functions amended, redacted, or improved at any stage. And of course, “if you built it you should certainly be able to service it”. So in that vein, the



*N2EY's 100% Homebrew Southgate Type 7 HF Transceiver
Not a separate transmitter / receiver but true transceiver—see text*

Southgate Type 7 has been a work in progress since the mid-1990s, with improvements and repairs dealt with along the way.

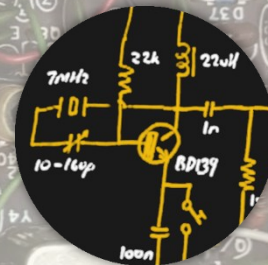
Jim also has a preference to build everything from 95% re-used or recycled parts, most often as found in hamfests. In

fact, the inspira-

tion for the Type 7 was the lucky find of some military-spec 500Hz CW filters from the bottom of a box at a hamfest back in the 90s, with the amazing low price of 50 cents! It was from these filters that the design took off. *(continued)*

HOMEBREW & KITS CORNER

Radio homebrew projects both large & small



HERE'S A SUMMATION of the operation of the Southgate Type 7 CW Transceiver, per Jim:

The receiver is a single conversion, using a 6EH7 RF amplifier, 7360 mixer into the first crystal filter, then a 6EH7 IF to the second crystal filter, 6BA6 IF



*Top left to right: transmitter heterodyne mixer;
RF power unit with 12BY7 driver & pair 807 finals
Lower: Transceiver VFO, receiver, receive mixer*

amp, then on to a 6GX6 product detector with BFO, and finally a 6C4 to 12BH7 receiver audio chain with 400 Hz LC audio filter for added selectivity.

The VFO (shared by both the transmitter and receiver) covers 4900 to 5150 KHz range, using a 12AU7A as oscillator. The signal is then fed to a 6BE6 pre-mixer, and then on to the 7360 mixer stage (talk about a rare tube these days!).

The 6BE6 also gets a signal from the 6AU6 heterodyne oscillator which is crystal controlled for stability. On 80 meters, the heterodyne oscillator is dis-

abled, and the 6BE6 simply acts as a buffer amplifier. The range of the VFO gives the transceiver a tuning span of 3500 to 3750 on the 80m band.

On 40 meters, the heterodyne oscillator is on 3400 KHz, and the 6BE6 pre-mixer adds that signal to the VFO signal to pro-

duce 12500 to 12750 KHz thus resulting in a tuning range of 6900 to 7150 KHz. Finally, on 20 meters, the heterodyne oscillator is on 7600 KHz, the 6BE6 pre-mixer sums that signal to the VFO signal to get an output of 12500 to 12750 KHz and the resultant 13900 to 14150 KHz. Thus the CW portions of all



*Filament & B+ supply—250vdc
75v & 180v DC regulated*



*High-voltage
power supply
and bias
supply for RF
driver and
finals*

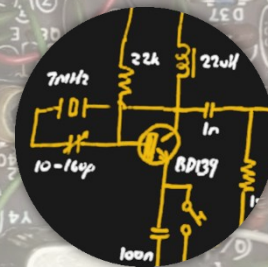
three bands are covered on receive.

The VFO signal is also sent to the transmitting mixing chassis where much the same process results in proper *transmitter* ranges for all three bands.

The final result is in fact a true transceiver, with the transmit frequency controlled by the receiver VFO. The benefit of a transceiver over separate transmitter and receiver is there is no need to "spot the

HOMEBREW & KITS CORNER

Radio homebrew projects both large & small



transmitter” in the receiver before every call. Thus contact speed can greatly be improved in contests.

There are very few refinements beyond the essentials, including the all-important receiver RIT (receiver incremental tuning) which is accomplished by a small relay that switches a variable capacitor into the VFO circuit when the RIT is activated... without the use of any semiconductors.

N2EY SOUTHGATE TYPE 7 BROAD DESIGN GOALS

1. Sharp CW crystal filter @ 500 Hz
2. LC audio filtering @ 400 Hz
3. 100 Watts out on 80 / 40 / 20
4. Slow tuning rate 5 KHz per turn
5. Good feel and user experience
6. No AGC or S-meter (no need)
7. RIT Receive Incremental Tuning
8. Final uses 807 transmitting tubes
9. Match reasonable antenna SWR
10. User serviceable with simples stuff
11. Inexpensive—salvaged parts a must

CONSTRUCTION: The Southgate Type 7 is unusual in that it is a transceiver but one that is built on several independent chassis. This was done for simplicity, weight considerations, and flexibility. The largest unit is the receiver/VFO/Buffer chassis which includes all but the last audio stage. In the photos, this is the unit with the lighted tuning dial and large tuning knob.

The next large chassis will appear to many to be simply a MOPA or similar transmitter, with the two large panel meters. However, this chassis contains only two stages of the transmitter: the 12BY7 driver and the pair of 807s in the final.

Other chassis include the power supplies, the transmitter mixer system, and an audio filter. All of the various chassis interconnect through plug-and-socket connectors for easy removal for service or modification if needed.

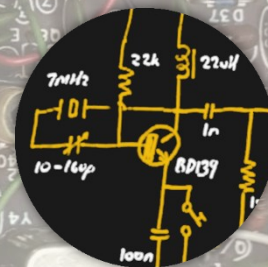
The performance of the station says it all. To date Jim has worked and confirmed all 50 and his confirmed DX record stands at 72 countries on 80m CW, 121 on 40m CW, and 109 on 20m CW. He’s also worked and confirmed 31 of the 40 zones, 16 on 80, and 28 on each of 40 and 20. Pretty amazing considering the station is 100% homebrew, and not only that, is Jim’s own design and engineering.

You will notice in the photos that there was no effort made to “pretty things up”. In Jim’s philosophy, that simply adds to the cost and complexity of the project. So there is a very cool “steampunk” simplicity throughout, right down to the desk it-

Do YOU have a homebrew?

HOMEBREW & KITS CORNER

Radio homebrew projects both large & small

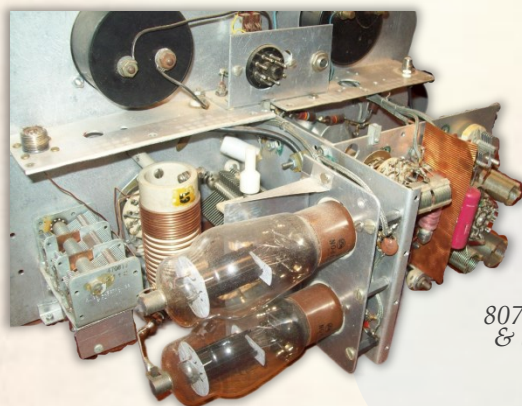


self which Jim built from various bits of scrap wood.

Overall, this to me represents one of the coolest homebrew stations out there, and has served the main HF gear in **N2EY**'s ham radio needs for nearly 30 years. ■ By Editor, with content provided by N2EY, used with permission



Transmitter
Heterodyne
Mixer
chassis



807 Finals
& driver

Did you know?

Amazon can be a great source for all sorts of electronic parts! Resistors, capacitors, inductors, TTL logic chips, you name it! Most are at very reasonable prices. See the examples below... **click each photo to view.** This is just a small sample of the parts you can find on Amazon.com for reasonable prices. Just a mouse click away!



Do YOU have a homebrew?

ANTENNA TIME

Notes, tips and projects

I'LL DRINK TO THAT!

SURELY ONE of the oddest antennas (to most outsiders anyway) is called the Beverage or “wave antenna”. It’s specialty is in reception, not in transmission. It was invented by a fellow called Harold H. Beverage just about 103 years ago in 1921. Just



Harold H. Beverage

like Yagi (sigh, poor Mr. forgotten Uda), the antenna quickly took on its creator’s surname and to this day is simply referred to as a Beverage.

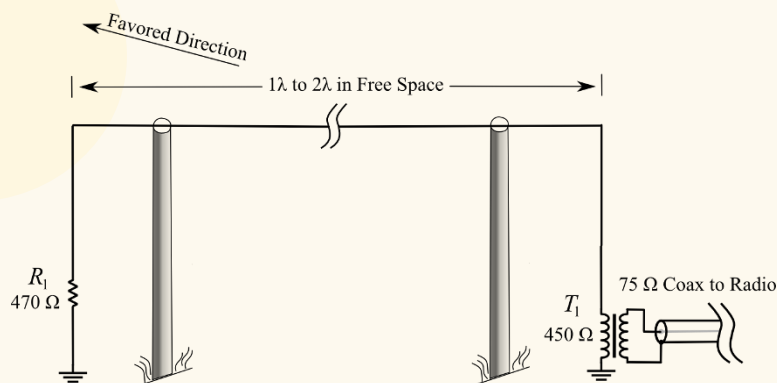
It’s one of the most unusual antenna designs, in that it really

functions nothing like a more traditional dipole or vertical antenna, which act as resonators on a specific frequency with RF current moving back and forth between the ends of the antenna as standing waves. Rather, the Beverage antenna design is called a “traveling wave antenna” and the incoming radio frequency currents travel in one direction along the wire, in the same direction as the radio waves, unlike a dipole. In other words, if you want East-West coverage of a dipole, you install it to be broadside East and West (aligning North and South). However, with a beverage, if you want coverage to the East or West, you align it pointing the direction you want to favor: East or West, not both.

By not having a resonance like a dipole, the Beverage has a much wider bandwidth. Odder still, de-

spite being installed in a horizontal configuration, it actually receives vertically polarized radio waves! And if that’s not kooky enough, a Beverage is usually installed close to the ground (sometimes even on the ground, called a BOG or “Beverage on Ground” in that case). But an unusual characteristic is the antenna must be coupled to the ground with a termination resistor, typically in the range of 400 to 800 ohms. And it’s this end, the terminated end, that is the “incoming” end of the antenna, leaving the far end (presumably at the shack) being the end connected to the receiver (remember—it’s a receiving antenna, not a transmitting antenna!). Most often a balun is required at the receiving end to match the high expected impedance to the low-Z of the receiving gear.

So why use this rather odd antenna? Beverage antennas are considered high gain and can pick up weak signals, while also low noise (they reject a great deal of local noise). And on top of that, they are easy to construct. They are a great way to improve reception on 160 and 80 meters. ■ *-editor*



Classic Beverage Antenna—KW2P Image

Click image to visit site & other designs

[Do YOU have an Antenna project?](#)

AROUND THE SHACK & SHOP

Little tips for when you get a round TUIT!



NO plastic power strips



This cheap power strip was the cause of my 2020 shack fire resulting in almost \$200,000 in damages

Do you have plastic power strips in your shack? Come on... be honest... *you know you do*. Well get rid of them! *ALL* of them. Most have surge suppression devices inside called MOVs (metal oxide varistors). One of the failure modes of an MOV in the event of a surge is they can catch fire, and spew flame out like a butane lighter and burn your house down. It happened to me in October 2020. Don't let that same thing happen to you. *ONLY* use all metal power strips if you must use strips at all.



October 25, 2020 5:45 PM

Got a shack or shop tip? Send it in!

Cool Tool



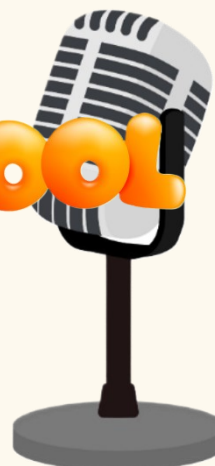
Click photo to view on Amazon

Hakko
CHP-170
Micro Cutter
\$5.47

Bob says, "Here's some real nice wire cutters suited for ham radio use. Very affordable but note they are not heavy duty and abusing one will break it. But under normal use you will find it to be your favorite wire cutter! Maybe the club is up for a group purchase! At \$5.47 you can't go wrong"

-Bob Hesleberg, K7MXE

SUPER COOL





AROUND THE SHACK & SHOP

Little tips for when you get a round TUIT!

HAMFEST SHOPPING TIPS

By Michael Martens, KB9VBR

HAMFESTS, the flea market of the amateur radio world, are part buying expedition and part social affair.

Shopping a hamfest can be a great way to outfit your shack, plus if you've been involved with ham radio more than a few years, a great way to connect and reconnect with those faces behind the microphone.

But shopping at a ham fest isn't without peril. The same rules apply to a hamfest as at any type of flea market, but also get to add the uncertainty of buying a piece of electronic equipment. You can either accomplish a great score, or be stuck with a pig in a poke. In that vein, here's some tips that served me well when shopping at hamfests.

ARRIVE EARLY (OR STAY LATE!)

Shopping at a hamfest is all about timing. Getting there early is the only way to be assured the best selection. If you are looking for something desirable, an early start may be the only way you'll be able to find it before someone else snaps it up. Conversely, staying to the bitter end can give you the leverage to buy something at a fraction of its price, as sellers are more willing to dis-

count instead of trucking it back home.

REAL LIFE TIP I've arrived at hamfests to enter right at starting time, only to find 100 others doing the same thing. Buy your tickets in advance to bypass the line and enter the grounds right away.

COORDINATE & COMMUNICATE

Hamfests are the most fun when you go with friends. Find others in your local club interested in going and carpool down. Not only will you have great conversations on the ride down and back, but you'll also have

an extra set of eyes watching for your most wanted items. Before we hit the hamfest grounds everyone in the group will share the 1 or 2 most desirable items they are looking for, then split up to search for bargains. Thanks to a fellow ham looking out for me, I was directed to an antenna tuner that was priced to sell.



REAL LIFE TIP #1 If you are going in a group, set up a simplex frequency to stay in contact. Pick something obscure, maybe in the UHF band, as the popular frequencies (146.52, 146.55, 146.58 MHz etc.) will be occupied and quite busy. Hamfests can also be noisy, so a speaker mic and earpiece will come in handy.

Got a shack or shop tip? Send it

(Continued)



(from previous page)

KNOW WHAT YOU ARE LOOKING FOR

Don't go into the hamfest without some type of plan. If you are looking for a transceiver, know the models and price ranges you are interested in. A bit of research ahead of time, maybe checking prices on eBay or with retailers will give you a benchmark on the value of an item. Bring a notepad and pen to jot down notes like location, model numbers, and prices. Away from the booth, use your smart phone to do a bit of research

before making an offer. Knowing if an item is a currently produced model, its age, and price value gives you a bit of leverage in making the offer. If you see something unusual or unfamiliar, don't be afraid to ask the

seller about it. They may be more than willing to give you a rundown on it's purpose or operation. Even if you are interested in buying the item, you may get a little education on something obscure. **NEGOTIATE** Just like a flea market, the prices at hamfests are negotiable. If you see a price that you

think is too high, throw out a counter offer. But be realistic, if you are truly interested; a lowball offer will get you nowhere and potentially insult the seller. Not everything at a hamfest is from a private seller. Commercial retailers also inhabit these fests. Their prices will be more firm, although they will often have special deals that you may not otherwise get in the store. You can try making an offer if they are selling a bit of used equipment, but know that they will most likely not negotiate on new merchandise.

REAL LIFE TIP #2

A big part of the negotiation process is to bring cash. Most private sellers won't take checks or credit cards. Have cash in small bills, so you can make an offer and have the cash in hand. You won't endear yourself to a seller by haggling him down on price and then making him change a large bill.



BUYER BEWARE This is the most important tip for any hamfest. Unless you are buying something from a reputable retailer, be advised that everything you see at a hamfest is as-is with no returns! I've bought stuff that once I brought it home, found out it didn't

(Continued)

Got a shack or shop tip? Send it in!



(from previous page)

work. But you can limit your risk by looking for these danger signs.

DIRTY GEAR: Is the equipment dirty or clean? A coat of dust or grime means it may have been carted to the last dozen hamfests without selling, or stored in a less than desirable fashion. Maybe the item saw a hard life and was pulled out of service because it no longer worked. Unless the price is right, I'd pass on something filthy.

SMELLS: Does the radio smell like cigarette smoke or worse, burnt electronics? This could be a warning that the equipment is not functional or will soon fail.

UNUSUALLY LOW PRICE : If a deal seems too good to be true, it probably is. An unusually low price may be an indication that the item is dead or nonfunctional.

NO DEMONSTRATIONS? Ask to see if the item can be powered up and tested. Are you able to open the cover and see if modifications were made? A reputable seller will offer to demonstrate the equipment or give you an opportunity to inspect and test it.

CONCLUSION: Hamfests are a great place to pick up interesting pieces of equipment. I've bought radios, both new and used, and also picked up a lot of unique items you may never find anywhere else. Every time I go to a hamfest, I carry cash and give myself a budget. I'm not afraid to walk away if I don't see something in my price range. Buyers remorse for spending too much is worse than the feeling of letting something get away. There's always the next fest. -used with permission, Michael KB9VBR

Upcoming Ham Fests

February 17 Salem Ham fair Rickreal, OR. <http://www.w7sra.com/> . [Flyer in PDF](#). (712K)

March 9 Mike & Key Swapmeet Puyallup, WA. *This is an ARRL Sanctioned Event.* <https://www.mikeandkey.org/index.php>

April 20. Kamiah Hamfest American Legion Hall 618 Main St. Kamiah, ID *This is an ARRL Sanctioned Event.* <https://www.3riversarc.club>

May 11 Stanwood Camano ARC 31st Annual Electronic Flea Market and Hamfest. Stanwood, WA https://scarcwa.org/ham_fest.shtm

May 4th Star Ham Radio Swapmeet in Star, Idaho <https://www.starhamradio.com/>

May 31, June 1-2, 2024. SEA-PAC Hamfest and ARRL Northwestern Division Convention Seaside Convention Center, Seaside, Oregon. info@seapac.org . www.seapac.org/ .

June 9-11 Wenatchee ACARC Hamfest, Dryden, WA <https://www.applecityarc.com/>

July (??) Chehalis Valley ARC Ham Radio Tailgate Swapmeet <http://www.cvars.org/>

August Puget Sound Antique Radio Association Swapmeet <https://www.pugetsoundantiqueradio.com/>

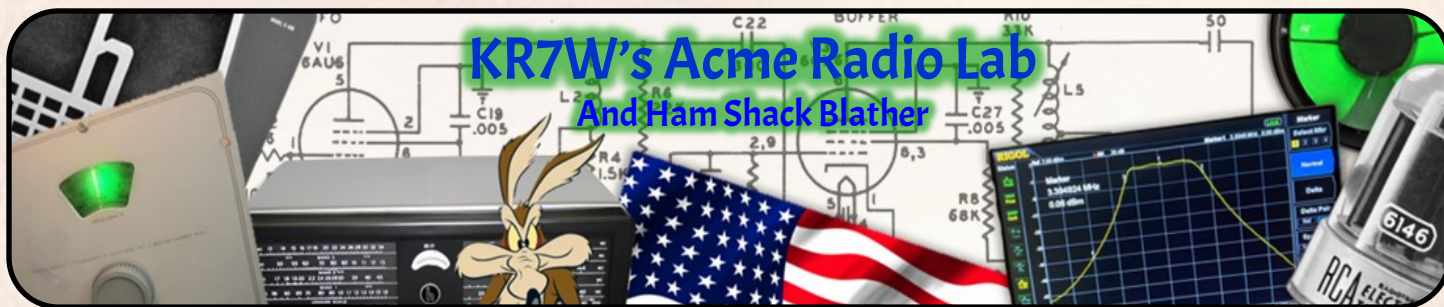
Got a shack or shop tip? Send it in!



The Gotham Vertical Antenna

“ I could tell you that when I was a boy in the early 1960s, in Eastern Washington, I was bit by a radioactive coyote while rabbit hunting in the desert on the ‘safe’ side of the KEEP OUT fence next to the Hanford Nuclear Reservation. I can profess as a result of that radioactive mind-virus bite—it drives me to need to keep busy with intriguing, curious, and detailed projects. I can also tell you that when I explain these curious and intriguing things to other people, it comes out very overly detailed. I know when that happens because I lose my audience. People walk off or prematurely turn the page. The subject matter for this project’s article has a gazillion large and small details. But for you, dear reader, who might find this interesting, I’ll attempt to keep it simple. OK ... are you with me so far? ”





AN APPEAL TO INTELLIGENCE
A product that is consistently advertised in QST month after month, year after year, has to be good. Over 10,000 GOTHAM antennas have been purchased by QST readers. Even the "price-is-no-object" customers choose GOTHAM antennas on the basis of performance and value.

Airmail Order Today—We Ship Tomorrow

FACTS
ON THE GOTHAM V-80 VERTICAL ANTENNA

- If K6INI can do it, so can you.
- Absolutely no guying needed.
- Radials not required.
- Only a few square inches of space needed.
- Four metal mounting straps furnished.
- Special B & W loading coil furnished.
- Every vertical is complete, ready for use.
- Mount it at any convenient height.
- No relays, traps, or gadgets used.
- Accepted design—in use for many years.
- Many thousands in use the world over.
- Simple assembly, quick installation.
- Withstands 75 mph wind-storms.
- Non-corrosive aluminum used exclusively.
- Omnidirectional radiation.
- Multi-band, V80 works 80, 40, 20, 15, 10, 6.
- Ideal for novices, but will handle a Kw.
- Will work with any receiver and xmitter.
- Overall height 23 feet.
- Uses one 52 ohm coax line.
- An effective modern antenna, with amazing performance. Your best bet for a lifetime antenna at an economical price. ONLY \$16.95.

FREE
Send a card for our valuable catalog of 50 different antennas with specifications and characteristics. Gives bands and frequencies covered, element information, size of tubing used, tower length, shipping weight, lead line used, polarization, and other data.

YOU COULD WORK WONDERS WITH A GOTHAM VERTICAL ANTENNA!
IS K6INI THE WORLD'S BEST DX OPERATOR?
Judge for yourself. I have counted the DX he has worked on 65 watts and a \$16.95 Gotham V-80 Antenna.
2405 Bowditch, Berkeley 4, California
January 31, 1959

Gentlemen:
I just thought I would drop you a line and let you know how pleased I am with your V-80 vertical antenna. I have been using it for almost two years now, and am positively amazed at its performance with my GRP 65 watts input! Let me show you what I mean.
I have worked over 100 countries and have received very fine reports from many DX stations, including SP9 reports from every continent except Europe (S89)! I have also worked enough stations for my WAC, WAS, WJAD and ADXC awards, and I am in the process of working for several other awards. And all this with your GOTHAM V-80 vertical antenna!
Frankly, I fail to see how anyone could ask for better performance with such low power, limited space and a limited budget. In my opinion, the V-80 beats them all in its class.
I am enclosing a list of DX countries I have worked to give you an idea of what I have been talking about.
Wishing you the best for 1959, I am
Sincerely yours,
Thomas G. Gobbert, K6INI (EA-7127G)

FILL IN AND SEND TODAY!
Airmail Order Today—We Ship Tomorrow
GOTHAM, DEPT. CB
1803 PUNY AVENUE
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FILL IN AND SEND TODAY!

AN APPEAL TO INTELLIGENCE
A product that is consistently advertised in QST month after month, year after year, has to be good. Over 10,000 GOTHAM antennas have been purchased by QST readers. Even the "price-is-no-object" customers choose GOTHAM antennas on the basis of performance and value.

Airmail Order Today—We Ship Tomorrow

I wanted those far away contacts, but money was tight for a 13 year old kid as the President, CEO, and CFO of a paper route! So lucky for me, my ever-generous across-the-street Elmer helped me build a crappy junk box inverted-V dipole antenna hooked to the sky with a 20 ft homebrew scrap-lumber mast.

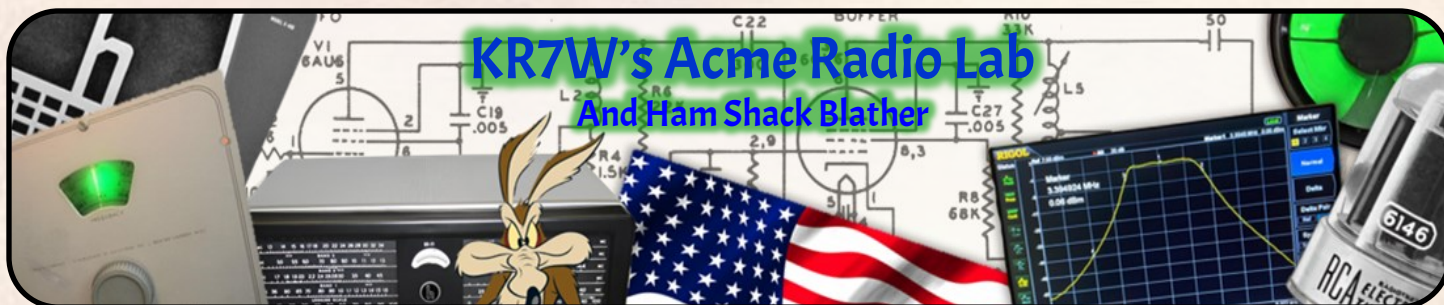
I made many up-to-400-mile CW contacts, but constantly wondered if at Jr. High School on Monday, would I *then* have been able to tell my boyhood ham friends that I had QSOs with *New England* or *Japan* last weekend... if *only* I had been using A *Gotham Vertical* antenna like the ads promised?

NOW IN THE 2020s as an Old Goat Ham living in a comfy home in an HOA neighborhood, I was on the lookout for a stealthy HF antenna that meets my needs of being on-the-air from time to time, to casually operate in CW Sprints, CW Sweepstakes, and Boat Anchor radio events.

One day I was up in our house attic installing an over-the-air (digital) TV antenna. I remarked to myself, "wow! Look at all the room up here!" ... with about 25ft from the ground to the apex, and with enough length for a full-size 40-meter dipole. Shortly, a 20–40-meter fan-dipole was built from junk box parts and Amazon wire. The coax feedline pokes through the sheetrock ceiling in my home office closet and, [Bob's my uncle](#), I'm On The Air! But will this antenna be good enough to satisfy my casual operating needs?

(Continued on page 68)

WHEN I WAS a young boy **Novice Class** ham growing up in Eastern Washington (EWA) during the early 1960s, an oft-published ad in QST Magazine for the **Gotham Vertical Antenna** repeatedly caught my attention. "*An Appeal to Intelligence*"... If I did not purchase a Gotham, am I *not intelligent*? Would DX QSOs be coming to my modest Homebrew 6V6 transmitter and Hallicrafters Shortwave receiver if I *intelligently* paid \$16.95 plus shipping and all the costs of unknown accessories? How could they *not*?



(Continued from page 67)

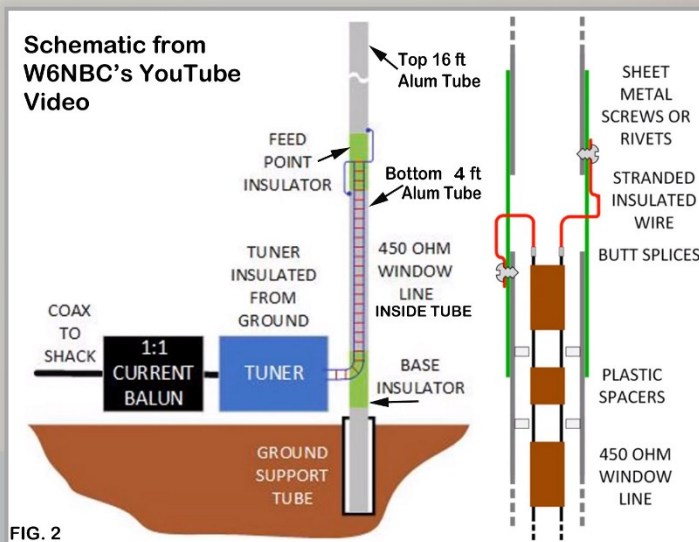
HAD TO BE A SPY BALLOON: My iPhone must have been listening to my conversations with fellow hams at the Tuesday meeting of the Church of Tacos and Beer. But also Google was keeping track of my web searches for a stealth antenna. Out of the Blue- I began receiving emails from: HOA Flagpole antenna from Greyline Antennas [Readers are advised to do their own homework on this company if interested in buying -editor]

Mr. Greyline, a 160-mile-away Idaho-based small business, presented me with his HOA Flagpole Antenna selections. I scoured his catalog and photos of his operation. There are many positive personal testimony reviews on his website. Many reviewers were professing ham radio (almost) miracles.

Flagpoles that fly the Stars and Stripes are popular in my neighborhood. Consulting with Ms. Pat WT7N, she says, "Sure let's put one up in the front yard and build a garden area around it, which will hide the antenna tuner". But before I spent \$1200, I wanted to build a simulation, a "works-alike" version, and test it out.

MORE RESEARCH: How does a 20 ft Flagpole work so well? Mr. Greyline's antennas are *not* typical verticals like the Intelligent Ham's Gotham. The Greyline is a **vertical Off-Center-Fed Dipole**. In this OCFD, the feed point is about 20 percent from one end. The impedance is *not* 50/75 ohms, so it is fed with ladder line, to a 4 to 1 or 1 to 1 BALUN, then to an Antenna Tuner at the base of the antenna.

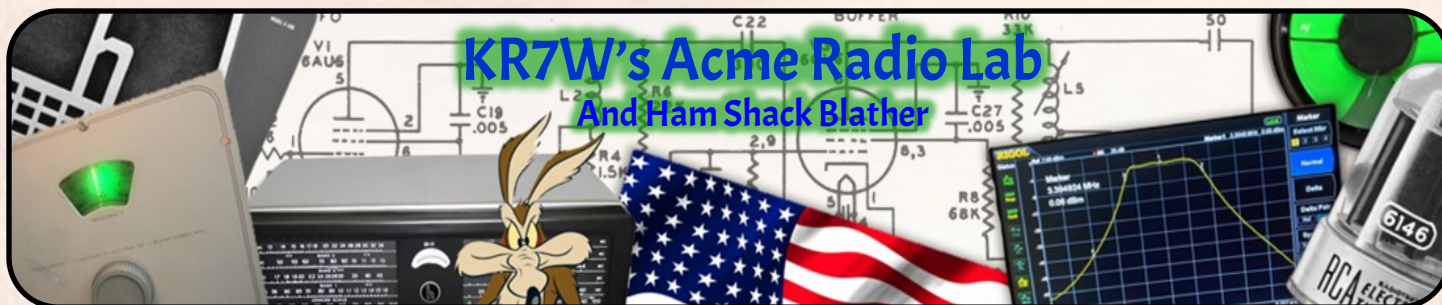
WHAT'S THIS? In the Greyline Flagpole photos, I don't see any ladder line. That's because the ladder line is *inside the 4 ft section of aluminum tubing* at the bottom of the antenna. More research takes me to [W6NBC Articles](#) who has an informative YouTube Video on this antenna ([29](#)) [DX Flagpole Antenna for Real DX 160-6M at Home or HOA, by W6NBC - YouTube](#) (A good video, IMHO). From Mr. W6NBC, I learned how the ladder line in the 4-ft section of aluminum tubing does not affect the tuning.



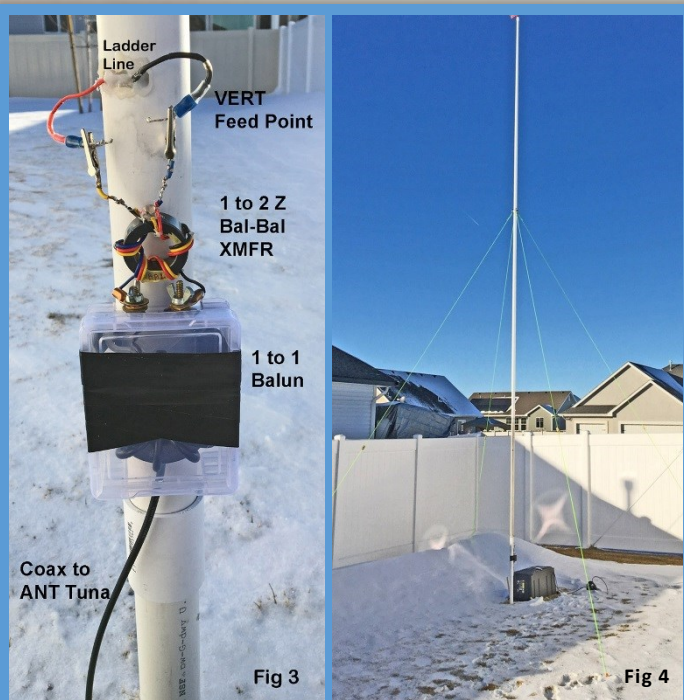
THE FABRICATION BEGINS: I set out to build my new Gotham Vertical I never had as a kid ham, which I hoped to be electrically similar, and physically emulate, the Greyline Flagpole. A ham-club friend has a large collection of aluminum antenna tubing and military junk communications parts. I was gifted a piece of 2 inch diameter, 4 ft long aluminum tubing which will be the lower 20% section of the OCF Dipole. I also received a 2-section 16-ft military fiberglass mast that is 2 inches in diameter. PVC pipe became the base insulator section. The top 16 ft radiating section of the OCF dipole is 2 lengths of #12 AWG stranded wire, pulled straight inside of the 16ft fiberglass mast to emulate the Greyline's flagpole aluminum top section. It pretty much emulates Mr. W6NBC's design in Fig 2. Electrical tape, sheet metal screws, and gravity hold it together. Parachute cord guys keep it vertical.

(Continued on page 69)

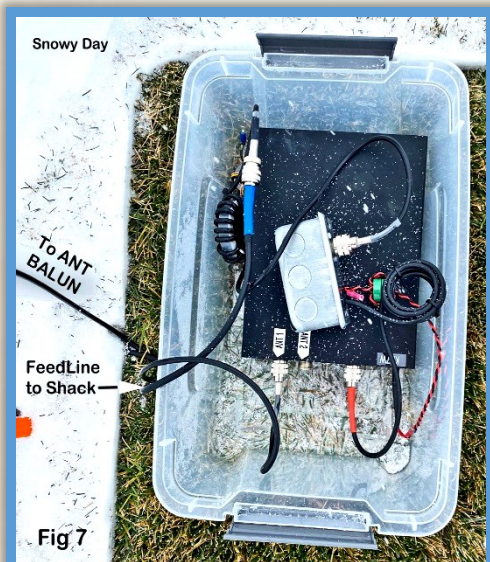




(Continued from page 68)



THE GOTHAM is located within the backyard side of a fence close to where I would erect the Greyline Flagpole- if I decide to purchase it. Fig 4 shows the 23 ft tall Gotham Vertical. About 50 feet of RG8X from my home office / hamshack feeds the Automatic Antenna tuner in a plastic tub at the base-Fig 7



Mr. Greyline recommends the [LDG RT-100](#) Remote Antenna Tuner for the Greyline Flagpole Antennas base. The RT-100 is remotely powered by a Bias-T Power Inserter which injects 12V into the coax. The New Gotham will use a 15 year old [LDG AT-200](#) desktop antenna tuner located at the antennas base.



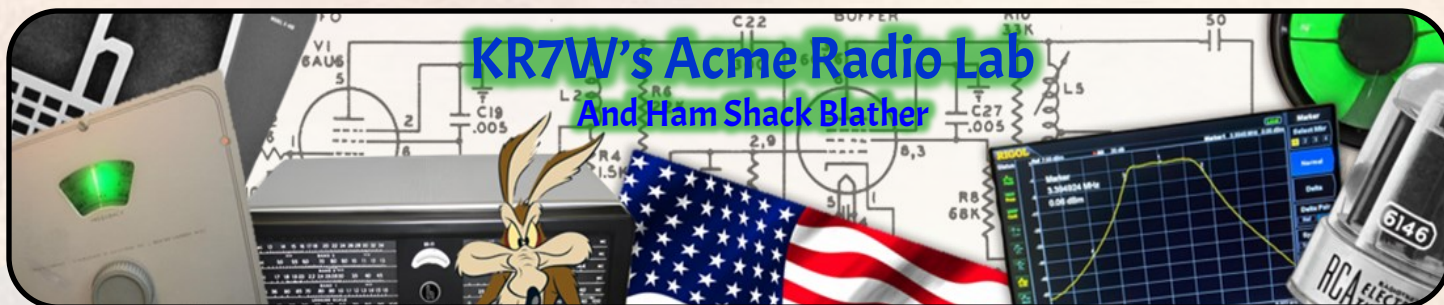
AN ANCILLARY PROJECT: A DIY homebrew Bias-T Power Inserter was built to power the desktop tuner. Fig 7 shows the HB Power Inserter (metal electric box) and desktop tuner at the base of the Gotham Antenna. This fun project will be described in future Bark article.

HOW DOES IT TUNE now that all of the components are connected together? The LDG AT200 is smart. Transmit 5 watts of RF to automatically initiate a TUNE, it tunes and remembers the setting for next time. A less than 2-to-1 SWR was achieved from 10 to 40 Meters. 80 Meters does NOT reliably tune. WHY?

YET ANOTHER ANCILLARY PROJECT: Normally a physically too short antenna operating on 80M presents a very low Z (impedance) toward the tuner or radio. In this case I believed that the LDG Tuners ability was too out of its range to achieve a good 50 ohm match. An experimental Impedance Transformer was needed to raise the Gotham's Z to be higher to work with the LDG Tunas limited ability. A DIY design was found at [Manual 1:2 BalUn 600 Watts for Delta-loop & Quad-loop antennas - HF kits](#). My version is shown in Fig 3. Details of this project will be explained in a future Bark article.

WITH THIS ADDITION the LDG AT200 could now achieve a good SWR match 80 through 10 meters. Whew!

(Continued on page 70)



(Continued from page 69)

NOTE: Concurrent to my fabricating and experimenting... RCT Member Randy **WB4SBP**, who thankfully took an interest in this project, was analyzing the New Gotham's predicted performance using NEC Antenna Modeling Software (he's really good at it). Randy provided Azimuth and Elevation Gain patterns and efficiency calculations per band. More on this later.

SO—DOES IT WORK? Is DX finally coming my way? Yes and No. On each band, I transmitted to achieve a good SWR match from the Gotham and the Tuner. Then I'd listen. On 10, 15, and 20 meters the antenna seemed to receive very well.

On 20 meters, using the RBN, or [Reverse Beacon Network](#), sending test CW signals and then noting the results of how many stations received me and their reported SNR ([signal-to-noise ratio](#)). Then switching to the Attic Fan Dipole, on 20m, I did the same. A fuzzy math formula was developed that added up the number of receive hits plus the SNR to create a performance score. On 20 meters, the Gotham performed slightly better than the fan dipole

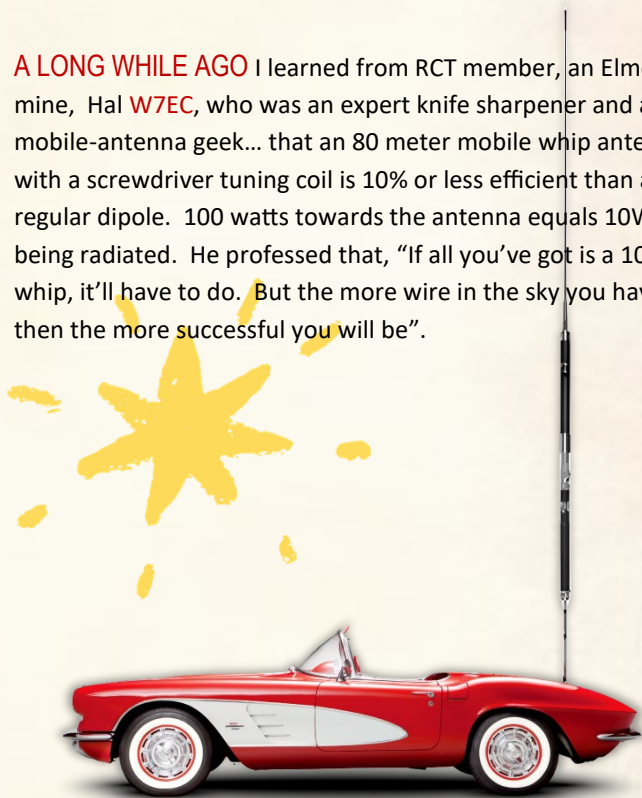
On 40 meters, the same test was performed at a time of day where I thought propagation would be good. The Gotham performed significantly worse vs. the dipole. Meaning the Gotham receives 4 hits, each with pretty low SNR where the dipole would receive 10 or more hits with significantly higher SNR.

Listening to stations on 40M with the Gotham, I'd need to push the **PREAMP 1** button which adds 10 dB (10 times) of receive gain in order to make the received signal level to be approximately equal to the Dipole's no-**PREAMP** receive level. Is the Gotham 10 times weaker? Best Guess is YES, it is. I have made CW contacts with the Gotham on 40M, but when switching to the dipole can notice a huge improvement in the amount of contacts. But as we all know, the ultimate 40M test is calling

into the [Noon Time Net](#). KR7W using dipole: "Net Control, I am gonna switch antennas now"... NCS: "OK, go ahead"... KR7W: "This is KR7W, can you hear me?"... NCS: "Again, Again? Can anyone else hear KR7W?" Someone pipes up and says, "Yah, barely"

Now 80 meters: As mentioned previously, the Gotham tunes up pretty well. Performing the Reverse Beacon Network test, in the evening when the popular SSB nets are on the air... the Gotham received no RBN hits. Maybe there's no 80M RBN receivers? Dunno. When listening to the popular SSB Nets, I'd have to add **PREAMP 1** and **2** in order to bring the band noise level to S-0. **PREAMP 1+2** equals adding 20 dB of Gain (100 times increase). Again, does this mean that the Gotham is 100 times weaker? Best Guess is MOST LIKELY.

A LONG WHILE AGO I learned from RCT member, an Elmer of mine, Hal **W7EC**, who was an expert knife sharpener and a mobile-antenna geek... that an 80 meter mobile whip antenna with a screwdriver tuning coil is 10% or less efficient than a regular dipole. 100 watts towards the antenna equals 10W being radiated. He professed that, "If all you've got is a 10 ft whip, it'll have to do. But the more wire in the sky you have, then the more successful you will be".



(Continued on page 71)



(Continued from page 70)

RANDY WB4SPB's CALCULATIONS: Randy provided many colorful Azimuth/Elevation plots to share that show where the signal travels best but I'll present the plots in a later column.

[Antenna Radiation Efficiency](#) is what I am mostly concerned about... which is defined thus:

"In antenna theory, radiation efficiency is a measure of how well a radio antenna converts the Radio Frequency power accepted at its Feed Point terminals into Radiated Power. Likewise, in a receiving antenna it describes the proportion of the radio waves power intercepted by the antenna which is delivered as an electrical signal" -[source link](#)

20-40m Fan Dipole	Gotham Vertical
40m: 63% Radiation Efficiency	22.5% Radiation Efficiency
20m: 70% Radiation Efficiency	26.8% Radiation Efficiency
80m: No antenna to reference	16% Radiation Efficiency

ADDITIONAL RANDY NOTE: "But then I compare with a model of a 1/4 wave vertical with 4 resonant radials at the same base height, and the models say the flagpole is a slightly better antenna: radiation efficiency is 19% for the vertical, 22.5% for the flagpole". Thank you, Randy, for your contribution.

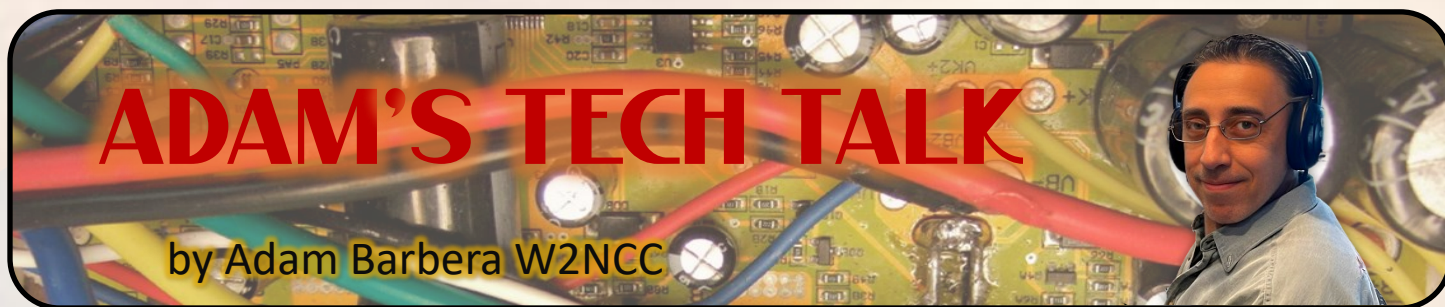
EPILOG: For me, because I have the ability to have a 20-40 Meter pretty-effective dipole in my home's attic, that matches my ham radio operating desires and style, I think I currently will pass on purchasing a Vertical OFCD Flag Pole antenna from Mr. Greyline. Perhaps I am fortunate in these circumstances. Perhaps I indeed realize that the "APPEAL TO INTELLIGENCE" in fact was in the basics all along: a simple dipole, and not in a miracle antenna with astounding claims of DX-grabbing technologies.

On the other hand, for a ham that lives in an HOA neighborhood home, which doesn't have the ability or space to muster an attic dipole, such a vertical is indeed a viable option. A 3 foot hole, some trenching and a couple of coax connections- and [Bob's Your Uncle!](#)

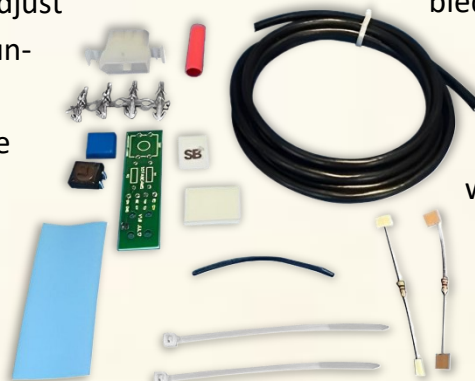
One more detail before I conclude this longwinded article. I am guessing, dear readers... that you are wondering if there is more to the radioactive coyote-bite part of the Prologue. Perhaps yes, there is.

In 1962 Peter Parker was bitten by a radioactive spider and became Spiderman. Since I was bitten by a Radioactive Coyote in 1963...sometimes I think I've in fact become ... **COYOTEMAN**

As always, thanks for reading this far...
73, Ricky **KR7W**



HELLO EVERYONE! Welcome again to Adam's Tech Talk. Icom radios don't provide an easy way to send a low-power carrier for tuning. This can be cumbersome when working with an amplifier and or external tuner, both of which need to have a steady-state signal in order to adjust them. When using an external tuner, most of us are familiar with changing to CW mode, turning the power down, then using a key to send a continuous signal. Another common method when a key is not available is changing to RTTY mode, reduce the power and press PTT on the microphone.



Click2Tune kit of parts

But there's a pretty slick 3rd party solution available from a company called [SOTAbeams](#). Their model Click2Tune is an accessory for Icom transceivers that provides low power for tuning external devices. This is extremely handy when working with an antenna tuner or amplifier. The Click2Tune connects to the tuner control socket on the rear apron of the radio. The device has a momentary switch, which when pressed, produces a low power RF tuning signal to the amplifier or tuner so they may then be adjusted. This gives the user full control to adjust the external device without any need to change the mode and for as long as you press the button,



Assembled Click2Tune

without significant risk of damaging the connected amp or tuner from a long-held high-output signal.

The Click2tune device can be purchased assembled and tested or as kit from [DX Engineering](#) for a very reasonable cost.

If you choose to build your device, as I did, the [SOTAbeams](#) website offers really good step-by-step instruction. This is an easy build and a good excuse to turn on your soldering station and melt some solder!

This is an accessory that will work with most ICOM radios that support auto-tuners. The device is compatible with the IC-7610. At the time of publication of this Bark edition, the device is only \$16.99 (plus tax & shipping) from the link above. Fun and easy to build and a great accessory for any Icom shack.

Until next time, 73!

Adam Barbera, N2NCC



HAM TECH 101

Useful tech info for newer hams and old

This column is reprinted monthly with permission of **AF5NP** from his blog www.NEWHAMS.info
References to FCC question numbers may be out of date but the content will still be accurate

WHY HAMS CARE ABOUT SOLAR ACTIVITY

There are many questions concerning the ionosphere and its layers in US license exams.

T3C02-2018: Which of the following is an advantage of HF vs VHF and higher frequencies?

Long distance ionospheric propagation is far more common on HF

Experienced hams talk about the ionosphere a lot these days and we see plenty written on the topic in amateur radio websites and [magazines](#). So what's the importance of the ionosphere?

The real magic in ham radio is [skywave](#) propagation where signals can travel well beyond line of sight, even to the other side of the planet if conditions are right. We can have two-way radio communication between Iceland and Australia and places in

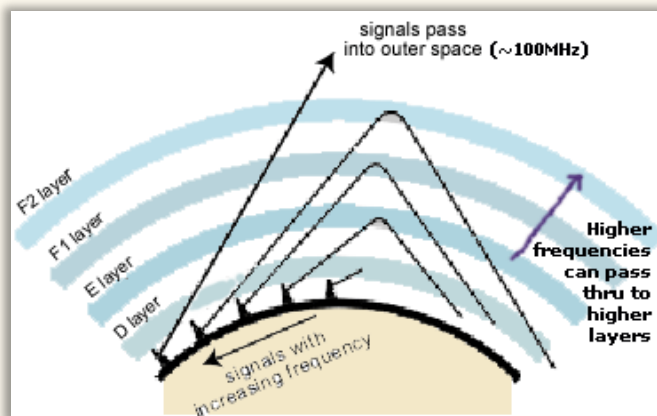
T3A11-2018: Which part of the atmosphere enables the propagation of radio signals around the world?

The ionosphere

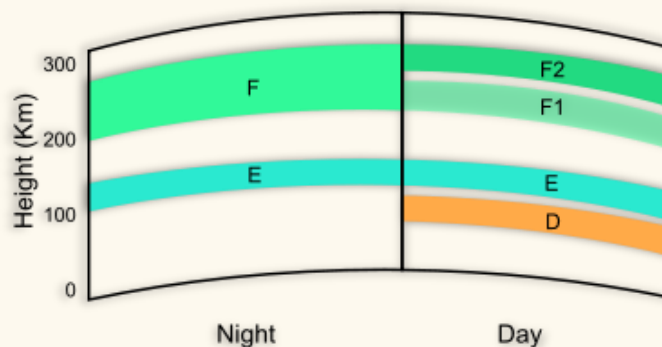
between because voice, video and data signals may be bent back to earth by the ionosphere.

The ionosphere is shell of electrons and electrically charged atoms and molecules (ions) that surrounds the Earth, stretching from a height of about 50 km

(31 mi) to more than 1,000 km (620 mi). Because this band is electrically active the [ionosphere](#) is able to reflect or refract electromagnetic radiation at certain frequencies, the HF bands in particular. For most hams, communicating beyond line of



sight is a big deal and the ionosphere is what makes long distance (DX) contacts commonplace.



There are two defined ionospheric [layers](#) at night and four in daytime, the difference being exposure to the sun which provides most of the energy to the ionosphere. In daylight the F layer separates

G3C03-2015: Why is the F2 region mainly responsible for the longest distance radio wave propagation?

Because it is the highest ionospheric region

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into F1 and F2 regions. Because F2 is farthest from the earth's surface it can bend radio waves the greatest distance.

LONG DISTANCE propagation changes with day/night cycles and seasonal variance away from the equator. There are numerous anomalies and disturbances that can affect the ionosphere. Between all these factors the ionosphere is not a uniform shell; it has varying height, thickness, and density. This continually changing area makes HF propagation highly variable.

Also known as skip, ionospheric propagation of shortwave (HF) radio signals travel a specific radius or [skip distance](#) from the transmitting anten-

T3A09-2018: Which of the following results from the fact that skip signals refracted from the ionosphere are elliptically polarized?

Either vertically or horizontally polarized antennas may be used for transmission or reception

na. This makes received signals particularly strong at the skip distance.

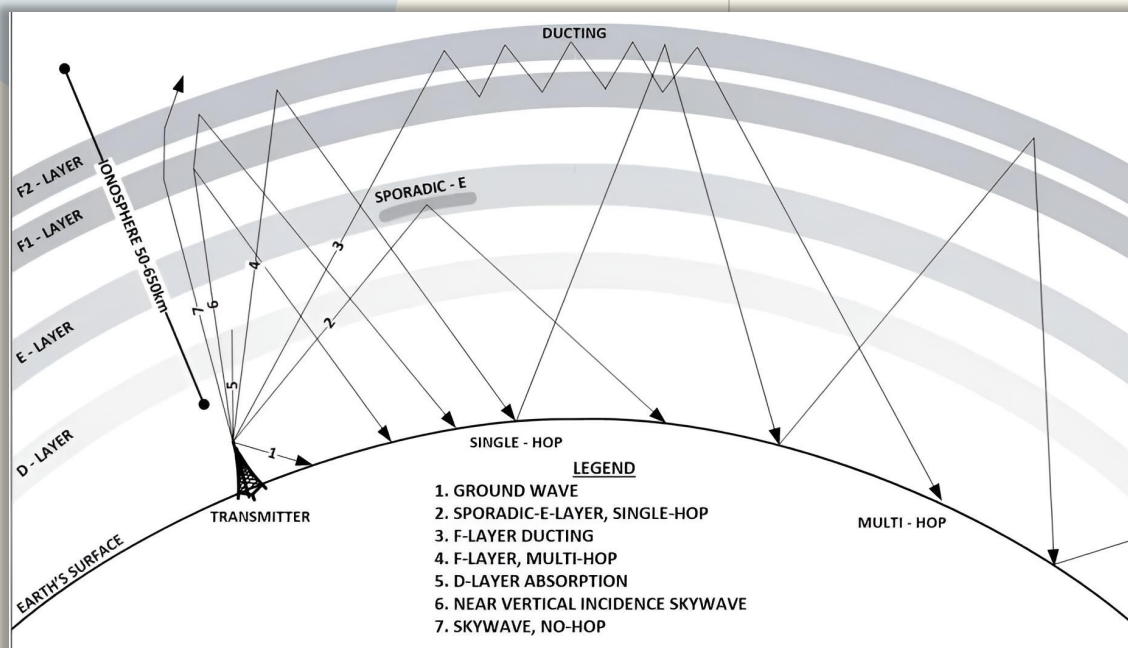
In addition to single skip distance, the earth itself can [reflect/refract signals](#) from the ionosphere back up, resulting in a secondary skip or hop and perhaps beyond that (multi-hop). There are significant losses with each bounce, so signals get progressively weaker as they skip along.

While we are here let's mention a few related topics of import. First, the useful state of the ionosphere is almost entirely dependent upon solar activity which is not constant. There are periods of excellent skywave propagation when the sun is active and then times of poor propagation when the sun is quiet. This is an important subject and we will present it in a future post.

Second, the specific condition of the ionosphere at any given moment affects both the lowest usable

frequency (LUF) and the maximum usable frequency (MUF). These are complex statistical values to help determine an operating frequency for communication between two points.

Finally, various diagrams presented here show that



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skip distance depends in part upon the angle that a radio wave takes from its transmitting antenna. A low takeoff angle favors greater distance while from the diagram below it is particularly evident that a high takeoff angle favors shorter range communications, the principle behind near-vertical incidence skywave (NVIS) antennas. With NVIS the ionospheric signal bending is more acute, more like reflection than refraction. We may also present NVIS as a future topic as it is of interest in emergency communications (EmComm).

[through the ionosphere](#) into space. Fair enough; the rest of us love and appreciate the magic of ham radio in making contacts far beyond line of sight and hopefully you now know why the ionosphere is important and why there are so many license exam questions on the subject.

We'll leave you with [this link](#) to a 1950s-era US Army video on the subject. It's old and corny but technically sound (still valid) and does a great job of explaining ionospheric propagation. Enjoy!

■ -Jim Peisker, AF5NP Used with Permission

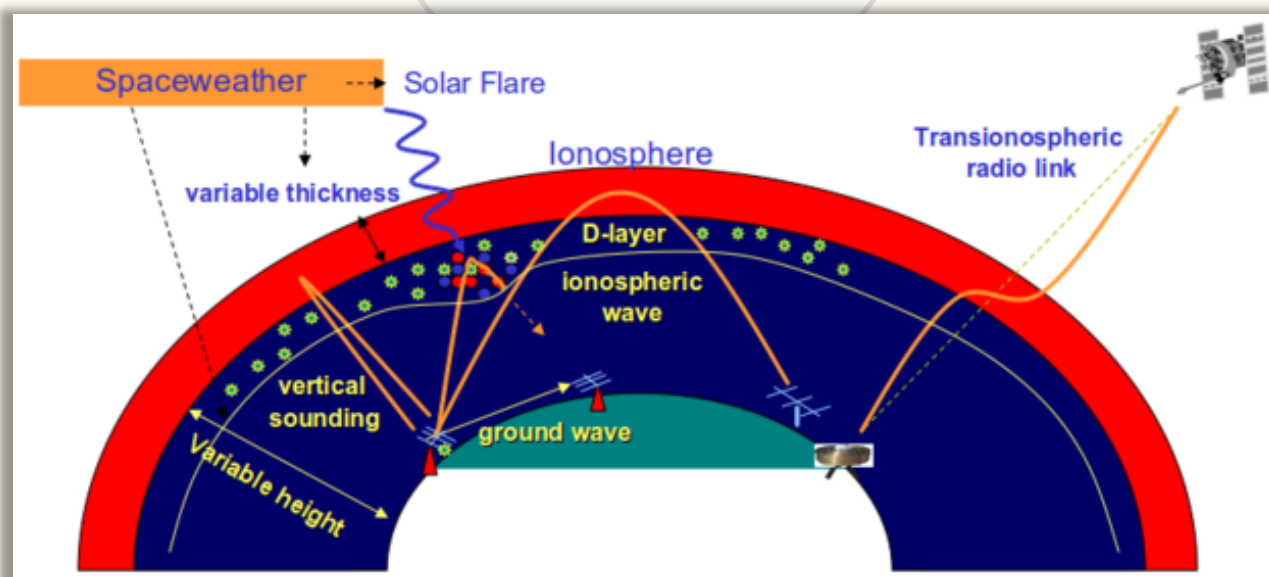
G3B05-2015: What usually happens to radio waves with frequencies below the MUF and above the LUF when they are sent into the ionosphere?

They are bent back to the Earth

Now maybe as a ham you only care about local communication, in which case the ionosphere doesn't matter much to you. VHF and UHF signals for local simplex and repeater use normally pass

T3C01-2018: Why are direct (not via a repeater) UHF signals rarely heard from stations outside your local coverage area?

UHF signals are usually not reflected by the ionosphere



HAM TECH 101

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THE IONOSPHERE IN BRIEF

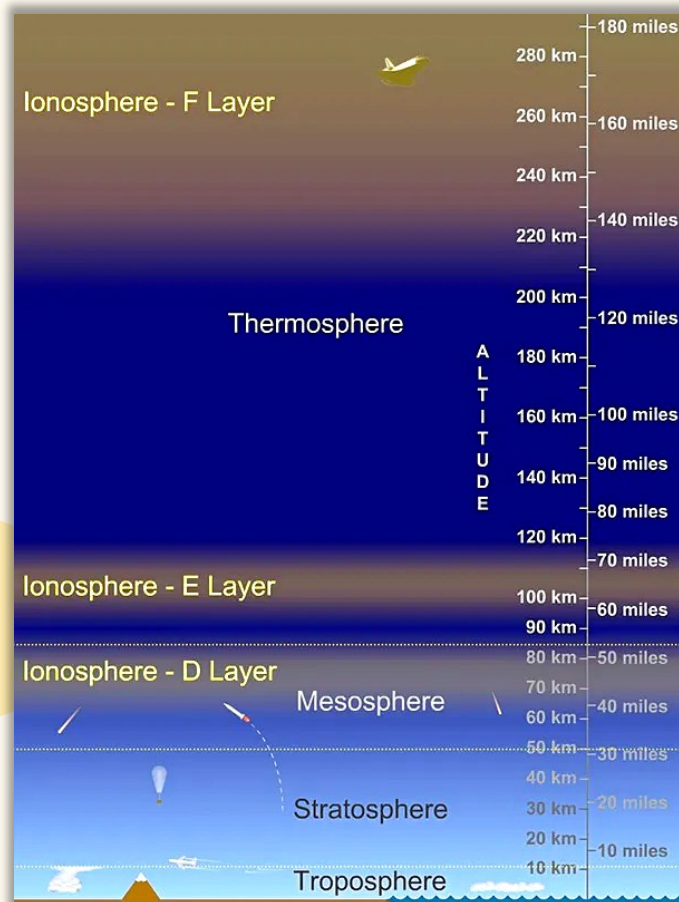
STRETCHING FROM roughly 50 to 400 miles above Earth's surface, the ionosphere is an electrified layer of the upper atmosphere, generated by extreme ultraviolet radiation from the Sun. It's neither fully Earth nor space, and instead, reacts to



Click on the super cool old TV to view the 1950s movie

both terrestrial weather below and solar energy streaming in from above, forming a complex space weather system of its own.

The particles of the ionosphere carry electrical charge that can disrupt communications signals, cause satellites in low-Earth orbit to become electrically charged, and, in extreme cases, cause power outages on the ground. Positioned on the edge of space and intermingled with the neutral atmosphere, the ionosphere's response to conditions on Earth and in space is difficult to pin down —editor ■



GEAR

Guest Columnist: Dave Jensen W7DGJ



ONE OF THE HANDIEST ham accessories I've ever run across is a large "bulldog clip" that will attach to just about anything, whether it



Workman QRCS3
Connector

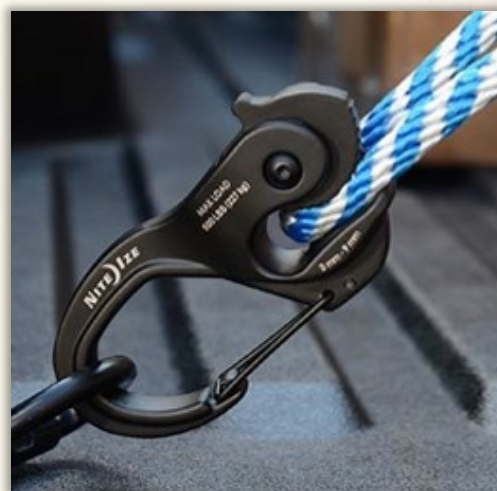
be a cattle fence or a stop sign in a local park (I've done both). This clip changed my portable activations from the moment I brought it along. The

Workman QRCS3 is a simple and inexpensive connector, built like a Mack truck, that allows a mount from just about any angle – vertical or horizontal. It has a big (powerful and strong) jaw that adjusts to 2.5 inches in full open; it ensures a solid connection due to all the "teeth" gripping the surface. A smoothly rotating bracket on the QRCS3 can be adjusted with an Allen wrench to any position and no matter what angle it is attached to that fence, it will hold your antenna upright.

I use this mount with a whip and coil, or it holds one end of a dipole. I've never experienced a situation where it wasn't helpful in some way. It's produced by Workman Electronic Products out of Ohio and is available from several sellers on eBay and Amazon for \$20-\$25 shipped. Like many other ham radio accessories, other companies or dealers buy

and resell this as their own, so ensure you don't pay the \$50 or \$60 they are looking for (Chameleon and others will resell this device as theirs).

Another cool piece of gear that I couldn't



Nite Ize CamJam XT rope tightener

live without is the CamJam. Used for a quick tie-down of an antenna support rope, or to tighten up one end of a dipole, for example, this device makes everything quick and easy. It's available in a couple of sizes, and both plastic and metal versions. Chris, **KF7P** introduced me to these and I'm now spoiled for life. You can find them on the website of KFZP Metalwerks, at KF7P.com ■



QRZ NEWS YOU CAN USE

QRZ.com Updates from Dave W7UUU

Head Moderator & Director of Forums for QRZ.com



SWAPMEET: HAM GEAR vs. GENERAL MERCH?

ONE OF THE MOST common QRZ Swapmeet moderation issues happens when someone lists a piece of gear in the Ham Gear for Sale forum that's not what QRZ considers to be ham gear. While this distinction is clearly pointed out in the [Swapmeet Rules](#) link, it's a well-established fact that no one ever really bothers to read the rules!

There are two primary Swapmeet marketplaces—Ham Gear for Sale (HGFS), and General Merchandise (GM). HGFS is reserved primarily for actual traditional “I call that ham gear” sorts of things like transceivers, microphones, ham-band antennas, and all the usual stuff. But it's unofficially defined as “gear that would be found in a ham shack that's not specific to some other service, aspect of life, or purpose that's not unique to ham operators”.

So what does that mean? Air-band transceivers would not be ham gear, for example, as they serve a primary purpose that's not ham radio. Sure, there are ham pilots out there. But the radio itself wasn't aimed for that market. AM tube radios from the 1930s are also often listed in HGFS, but in fact are GM items. The AM broadcast band, while very similar to ham radio and specifically the 160m



Yep! Ham Gear!

band (which lies just above the BCB frequencies), is in fact another service. Do hams own AM radios and listen to them? Sure. But it doesn't make a 1943 Zenith Tombstone AM radio be ham gear any more than the lawnmower owned by a ham isn't ham gear either. Same for things like power inverters, computer gear of any type, solar cells, or tents. ALL of these items are certainly found in all manner of ham applications, but ham radio was never the first calling for these items. CB radios of all types are another good example. Lots of hams own them but they are not only not ham gear. But CB gear can be very polarizing and just get some hams in a tizzy to see such items listed in the Swapmeet, so CB rigs and antennas *must* be listed in GM without exception.



Nope! General Merchandise

The big gray area, and the most confusing category for many users to follow, is the world of Motorola radios of all types—from HTs to full-blown repeaters. Much of this gear that appears in the QRZ Swapmeet was not remotely intended for the ham radio hobby market! Radios designed for police, military, and industrial applications are definitely aimed at a different service. But the fact is, virtually *all* of this gear can be easily programmed to ham frequencies and most of those selling such



QRZ NEWS YOU CAN USE

QRZ.com Updates from Dave W7UUU

Head Moderator & Director of Forums for QRZ.com



radios do just that—buy up surplus high-end Motorola gear to be used by hams. This has long been an established category of “products for another service” that can be sold in HGFS simply because they are truly capable for use in ham radio service long after their commercial use is over.

Another common gray area are the “10/12 Meter” mobile transceivers most often found in truck stop CB shops under Ranger, RCI, and other brands—



NOT ham

ranging from 100 up to 400 watts. Those don't fool anyone—they are simply CB radios that happen to do 10 and 12 meters to appear to be legal

(usually with very poor spectral purity) but in reality, there's a “clip the diode” method to turn them into 200w CB transceivers. So with very few exceptions those listings will be moved to GM. The only time we don't is for a few rare models that are FCC approved for Part 97 use on the ham bands.

CB amplifiers of any type are never allowed. Whether homebrewed or sold by names like Donkey Stomper, Wizard Built, Dave Made, Carl Built,



CB Amplifiers? NO!

and a zillion others. CB amplifiers are not now nor ever have been legal in the US so they simply cannot be

listed on QRZ. And why does all this even matter? Well, the HGFS stuff appears right on the front page of the site—about 2/3 of the way down the page. And there's also the ever-popular “[Swapmeet Hotlist](#)” link that displays the most recent listings as Polaroid photos. HGFS simply gets the most attention and folks want to be listed there to “sell fast”, whereas GM tends not to be so much. But if you scan the GM listings, you'll find that the frequency of “SOLD” flags is right up there with HGFS, so largely that is just a myth – both markets do *equally well* with buyers.

So there you go—a down and dirty explanation of the Swapmeet forums for Ham Gear and for General merchandise, and how they differ in the ways that the moderators deal with these listings.

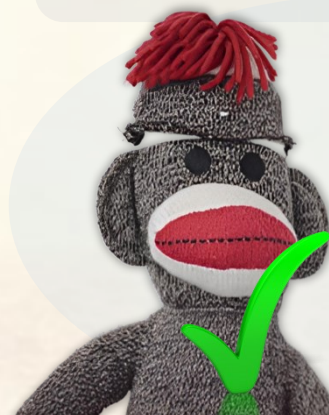
Until next month, this is Dave **W7UUU**. And if you ever have a QRZ question, just [shoot me an email](#) and look for my response in the next month's Mailbag page..... 73!

Sock Monkey?

Real Monkey?

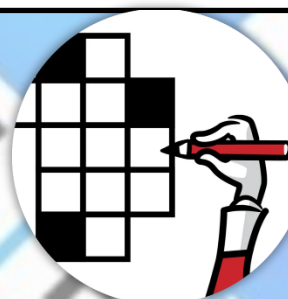
General Merchandise!

NO!

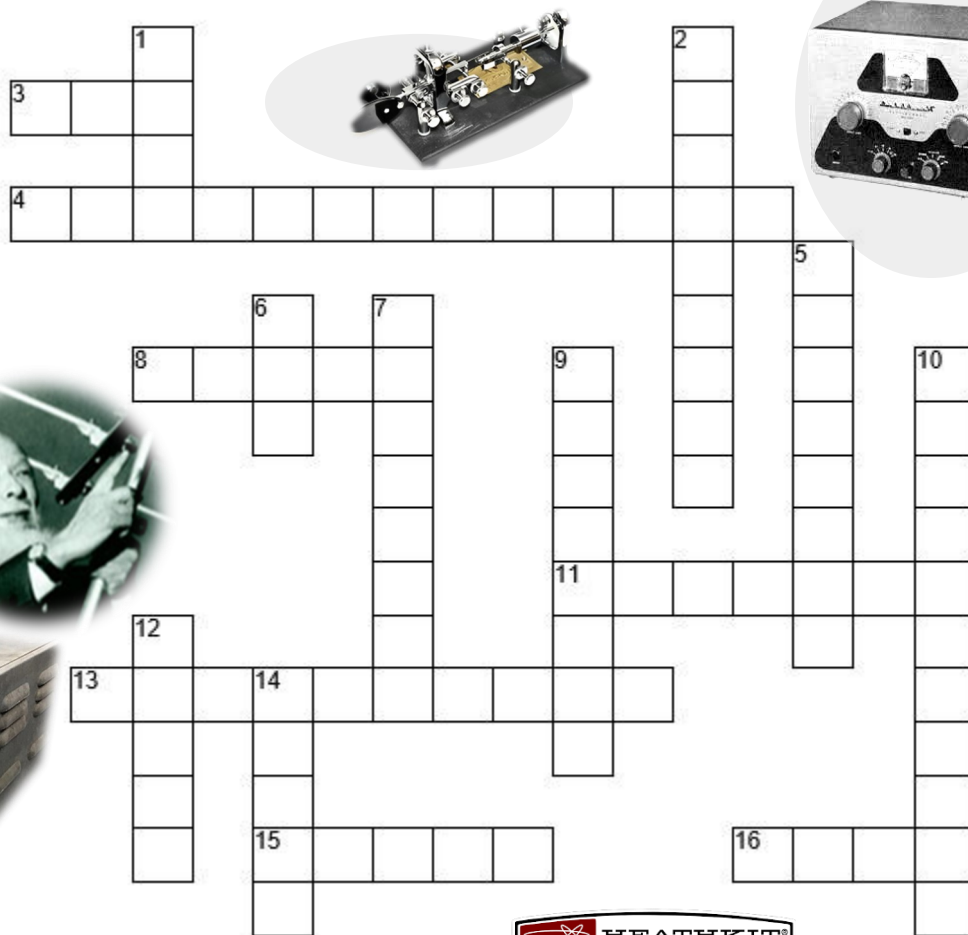


FUN AND GAMES!

Crosswords, Word Search, etc.



Crossword Challenge! Print this page to play!



Across

3. Mr. Yagi got all the press but it was his engineer friend who did all the hard stuff
4. Mr. Halligan started a radio company and he called it....
8. The Chinese radio brand called Wouxun when pronounced in English sounds just like....
11. _____ Bark
13. Boat anchor receivers designed by Oscar _____
15. Doctor Clifford J. _____
16. The part of a transistor that functions much like the grid of a tube

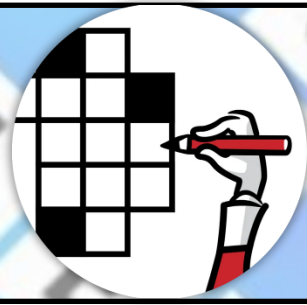
Down

1. Mr. Morse's assistant
2. The biggest brand and best known maker of semi-automatic Morse keys
5. A device used to listen to information sent by radio
6. If you had a radio device called a J-38, what type of device would it be?
7. The fancy name for a coil of wire used in an RF circuit
9. Long before Heath Co. sold electronic kits they sold _____ kits
10. A device used to send information by radio
12. When things are unbalanced but need to be otherwise, this device is what you need
14. The guy who sent "What hath God wrought?" via radio

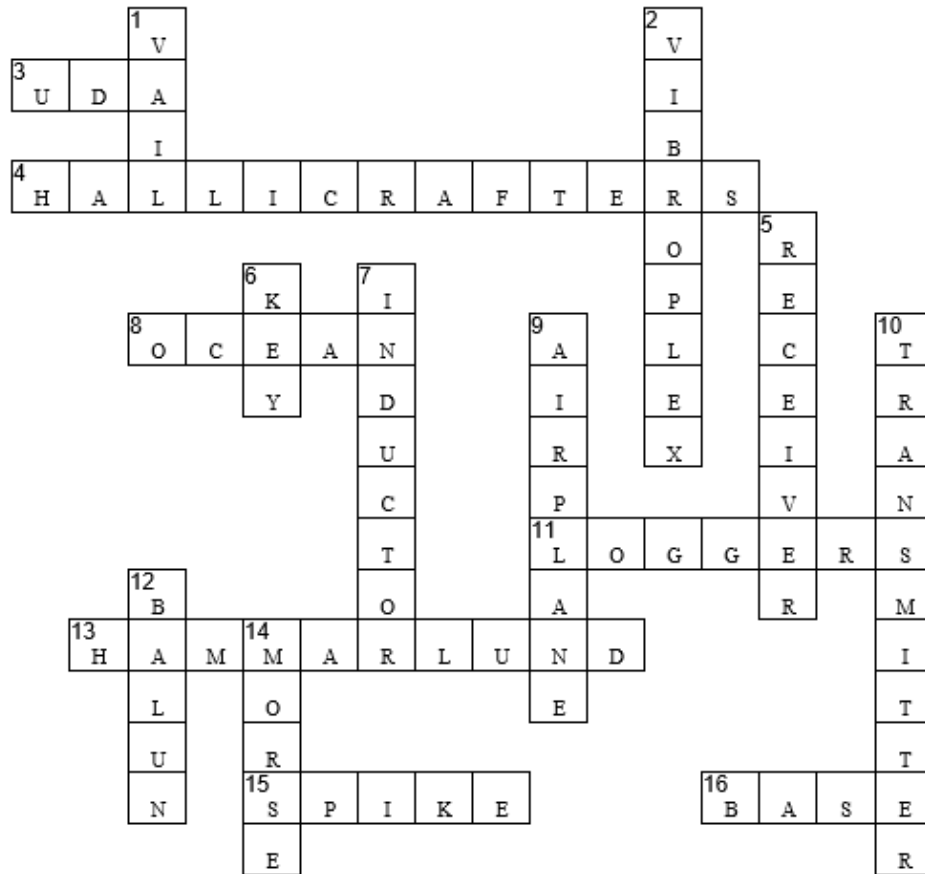


FUN AND GAMES!

Crosswords, Word Search, etc.



Answer Key... but don't cheat!



Across

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CLOSING REMARKS



W7DK

ABOUT THIS PUBLICATION

The Logger's Bark is the official publication of the Radio Club of Tacoma and is published by RCT, PO Box 11188, Tacoma, WA 98411. The Radio Club of Tacoma is a non-profit corporation as defined by law. All proceeds will be used exclusively for charitable and educational purposes. The Radio Club of Tacoma's Club House is located at 1249 Washington St, Tacoma, WA 98405, phone: 253-759-2040.

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Central Tacoma 70cm: 440.625 + PL Tone 103.5
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- [Full-time students](#), licensed or non licensed, up to age 25 are \$20 per year.
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loggersbark@W7DK.org